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THE
FAR EASTERN
REVIEW

Engineering
Finance Commerce

YALE UNIVERSITY

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Vol. XII., No. 8. *

SHANGHAI—MANILA

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January, 1916.

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Roads the Salvation of China

Restoration of Monarchy in China

Peking Syndicate's Honan Mine

Japan's Latest Insult to China

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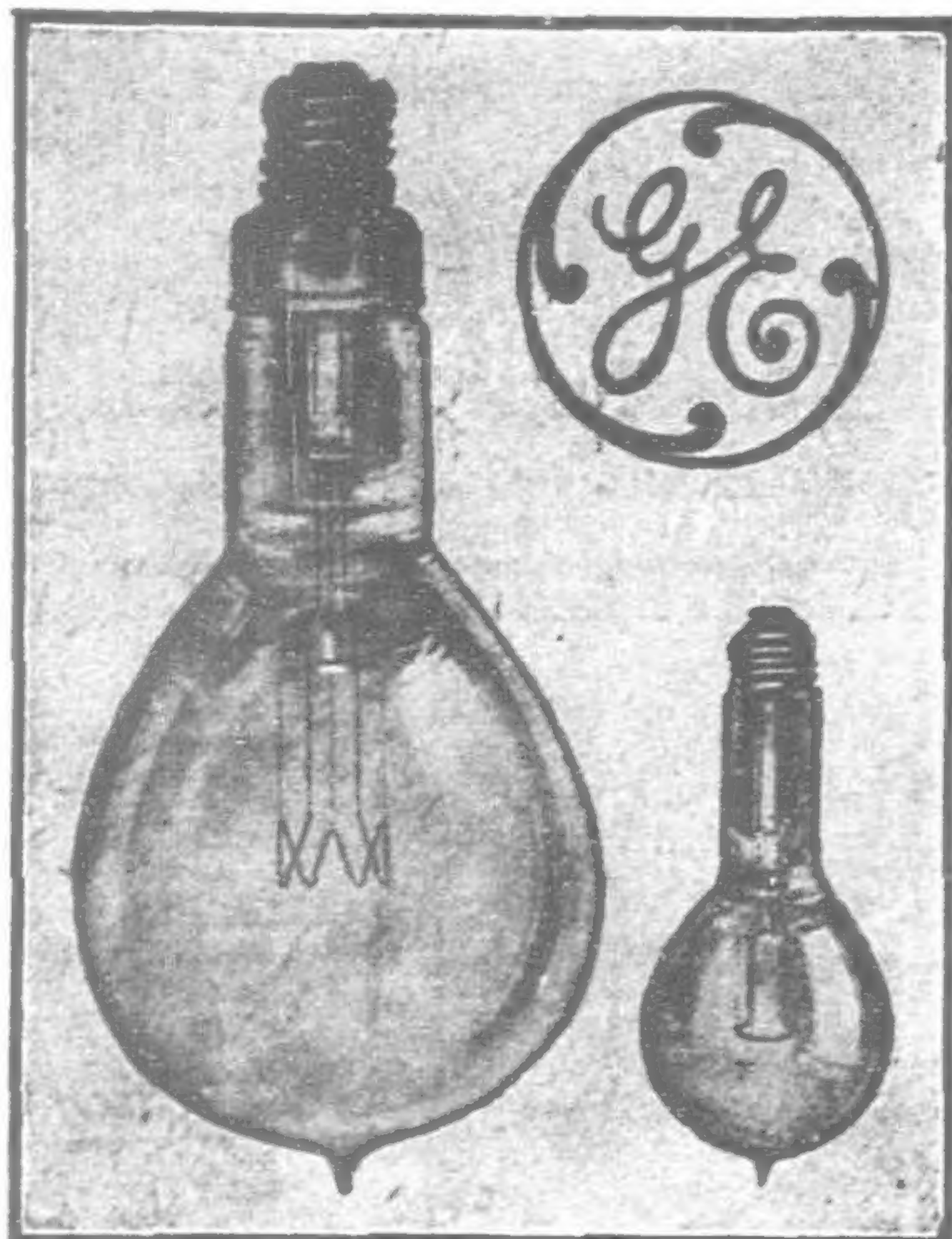
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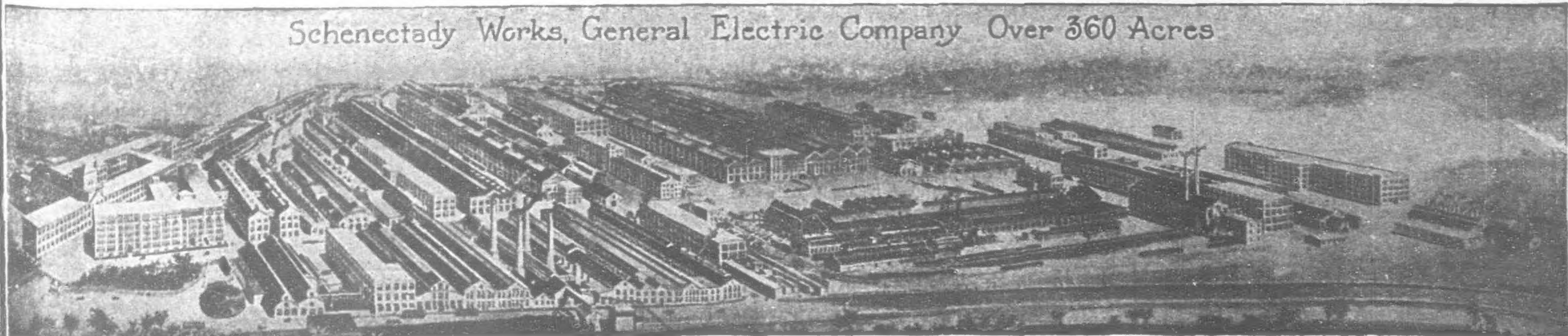
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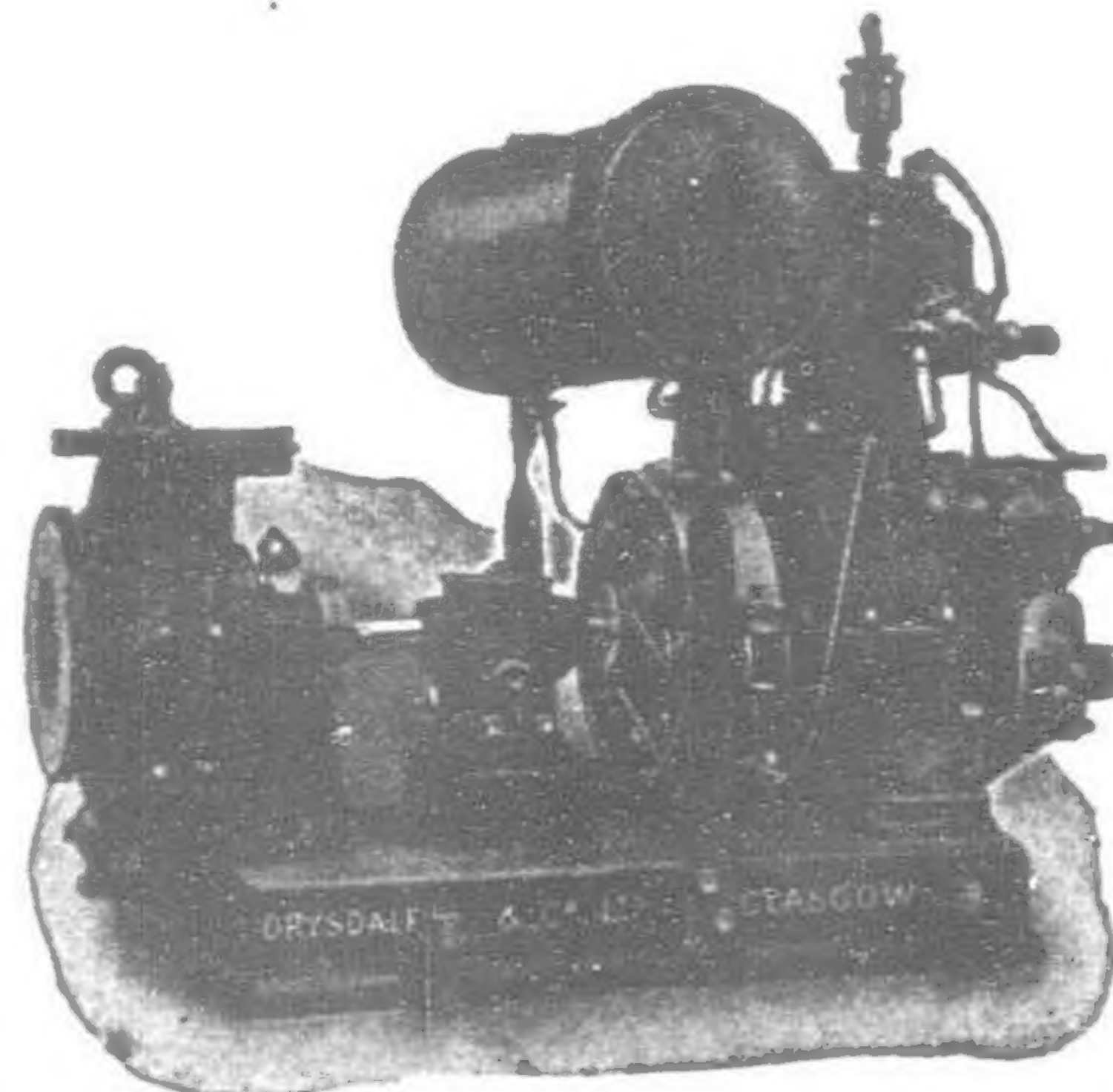
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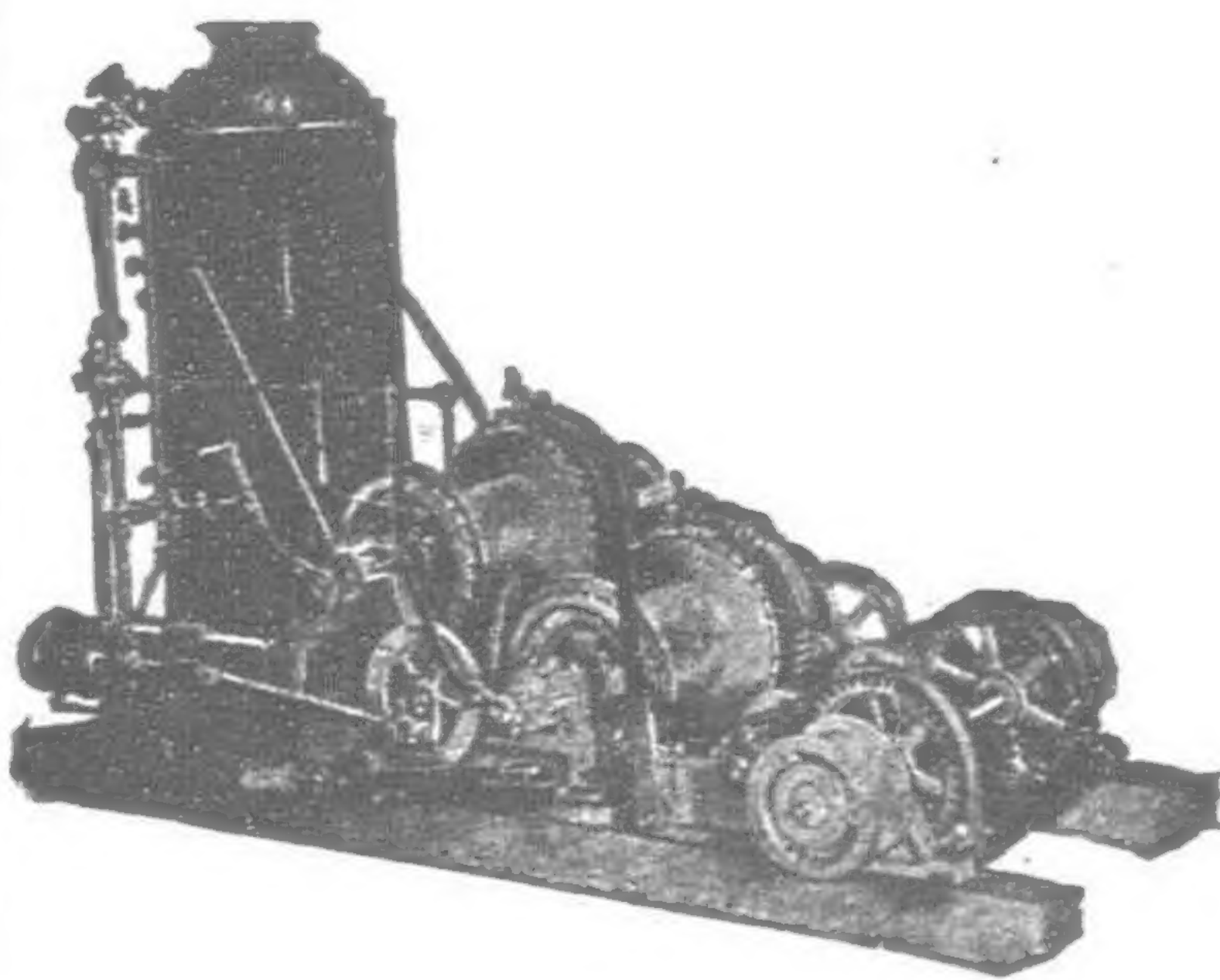
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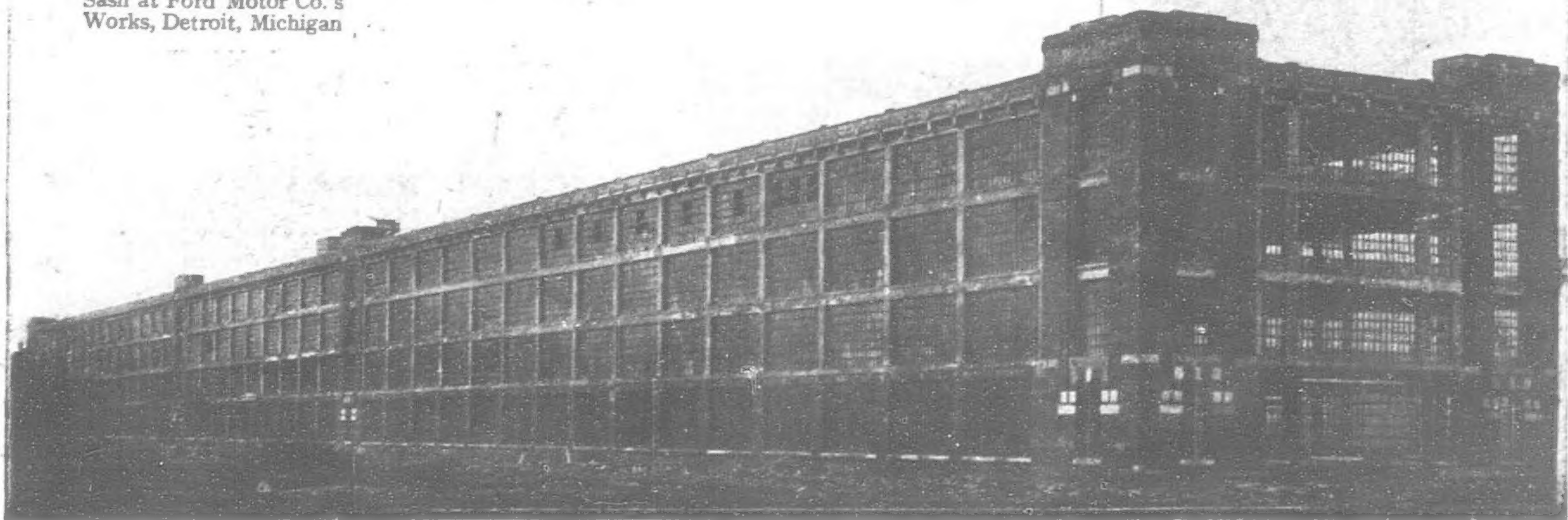
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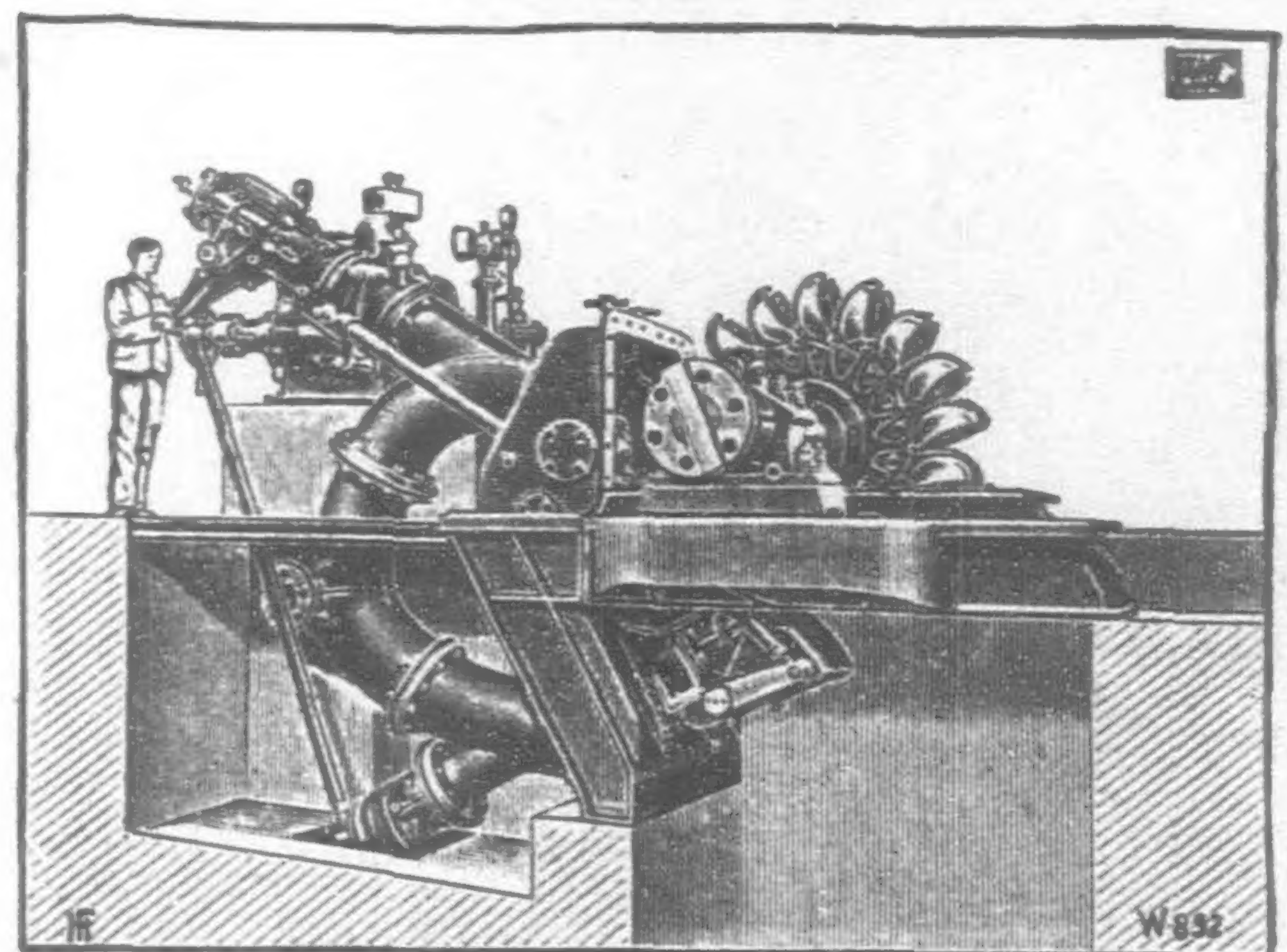


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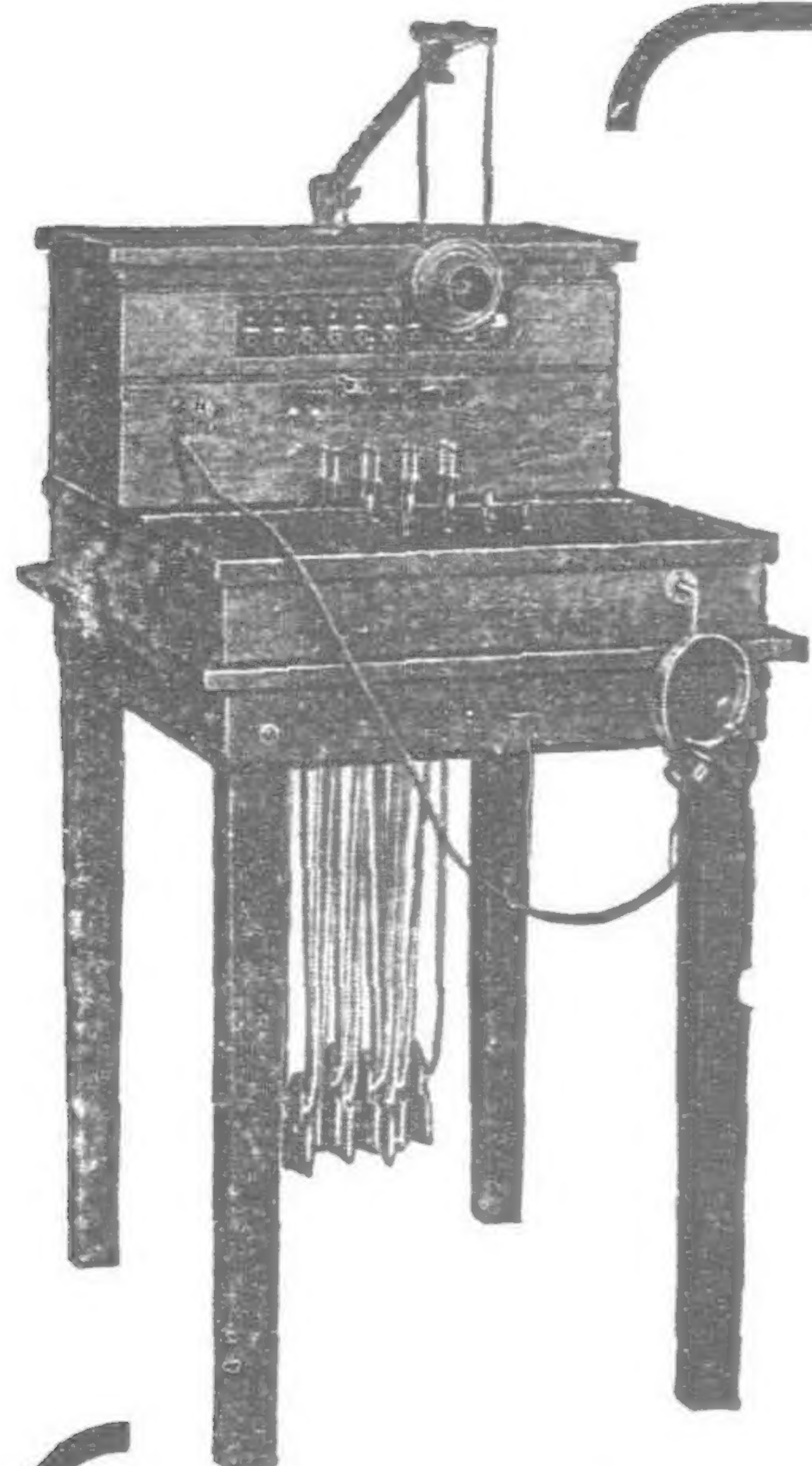
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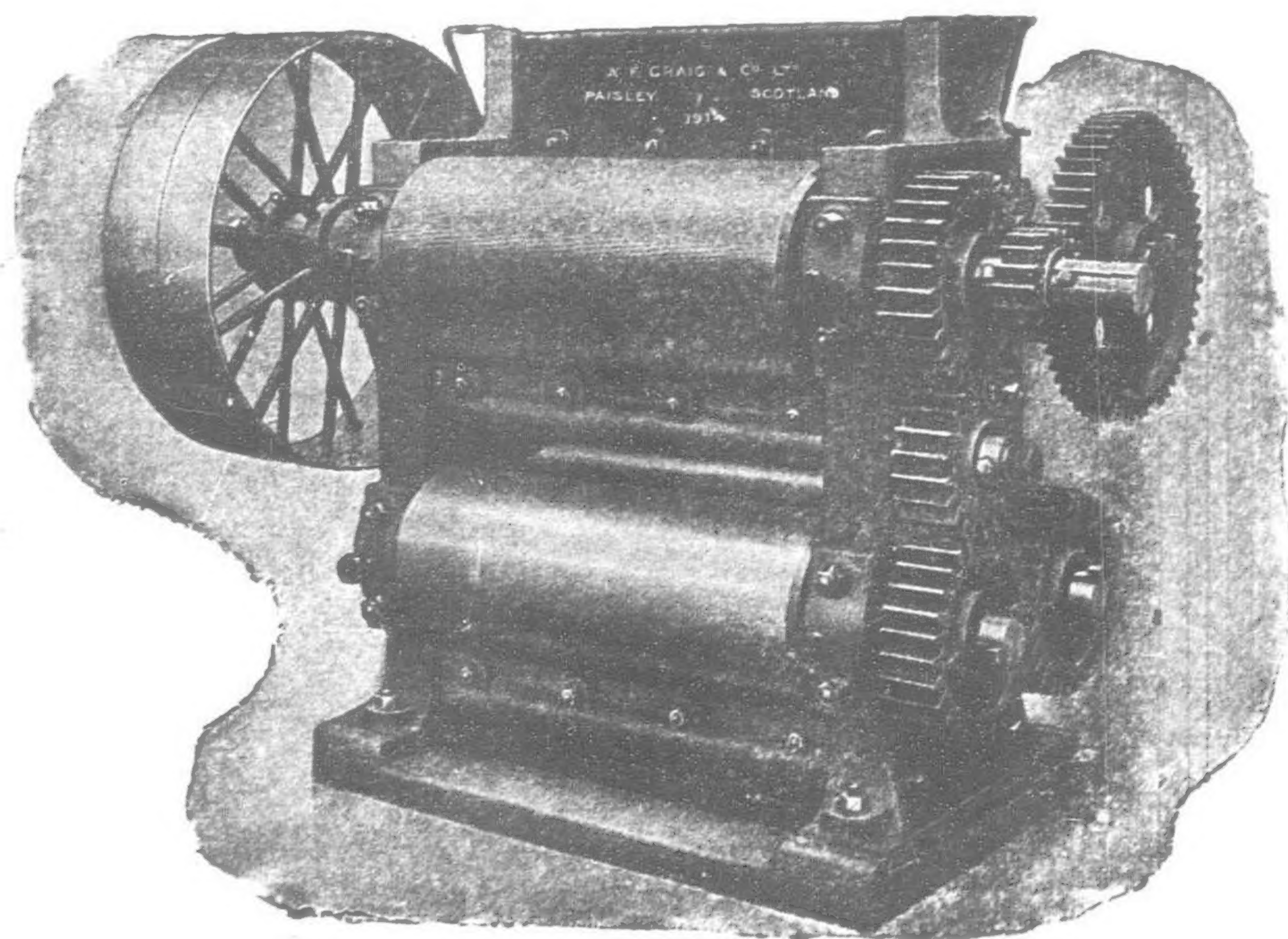
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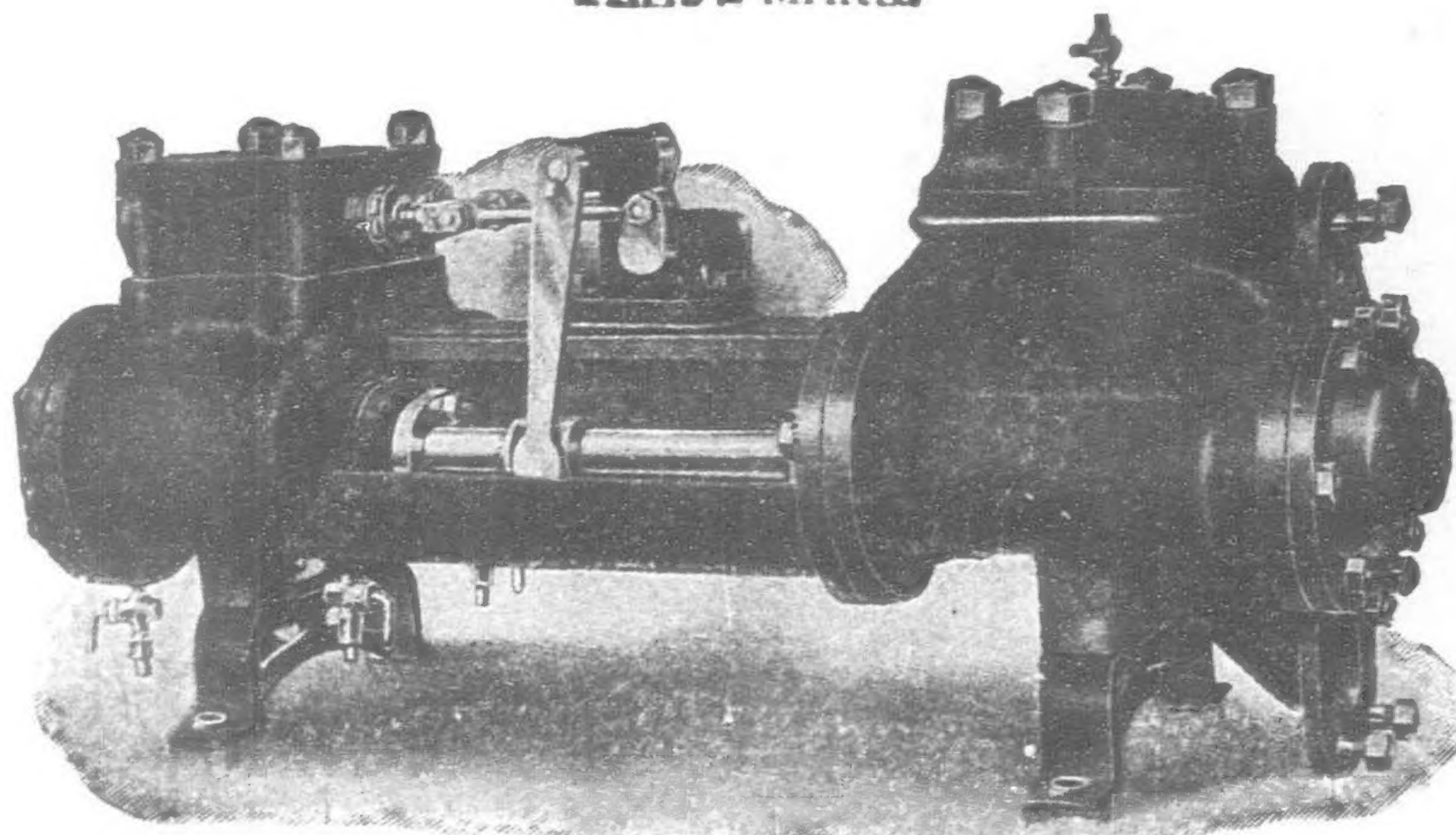
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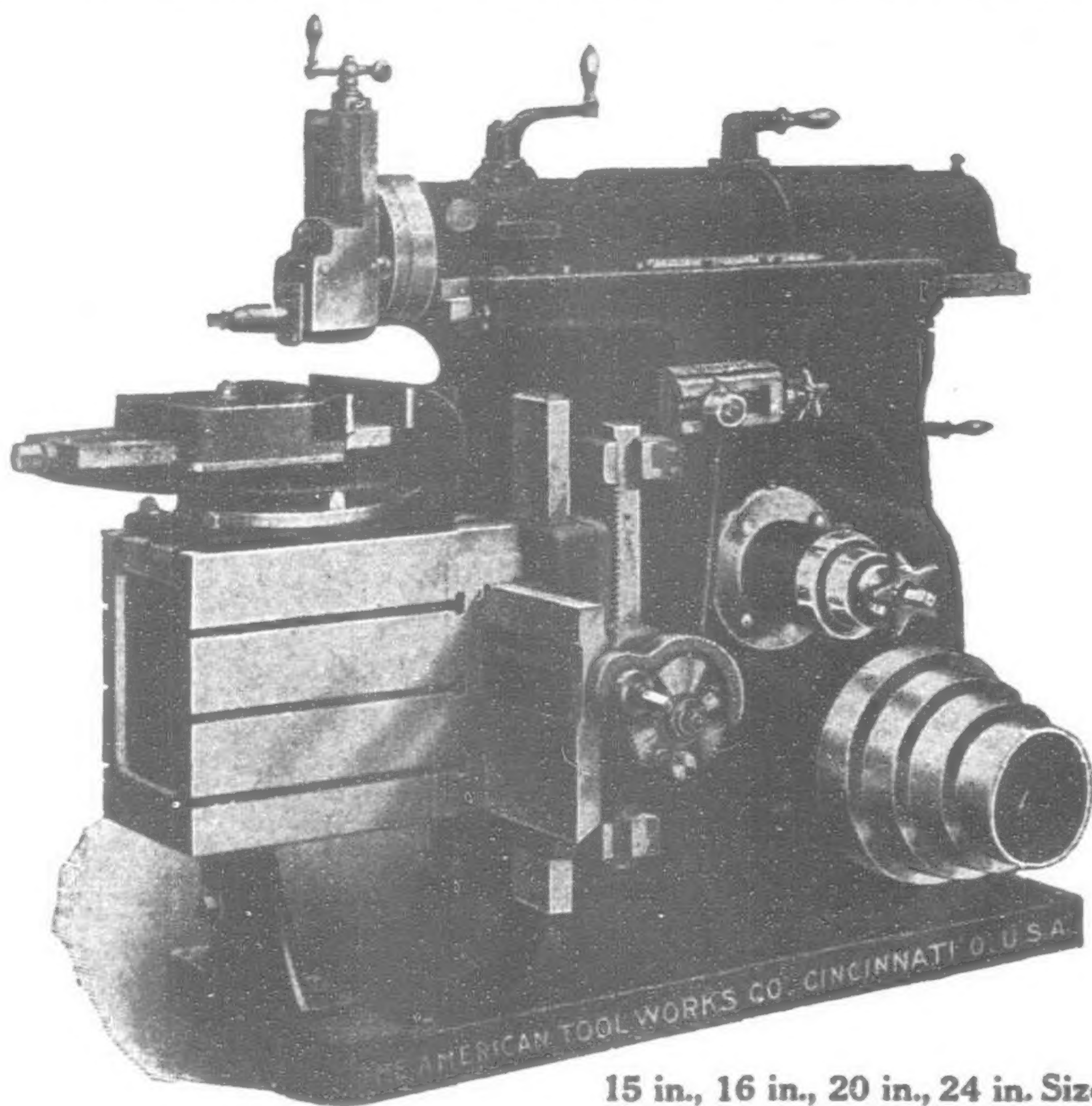
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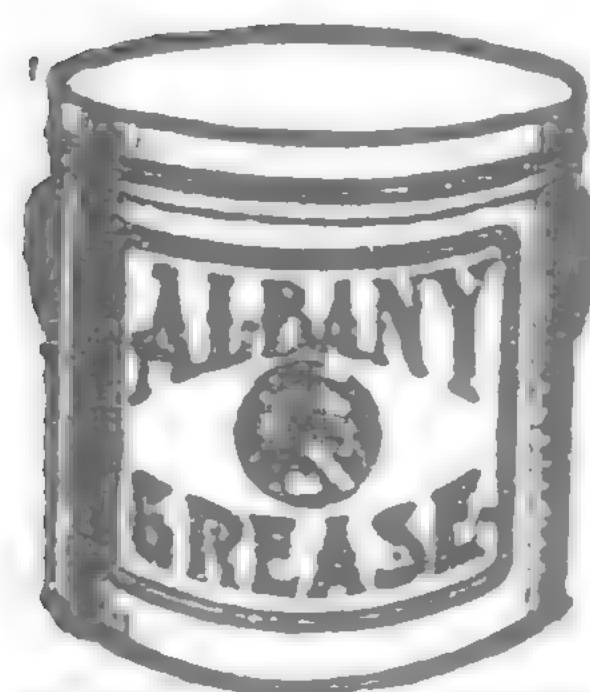
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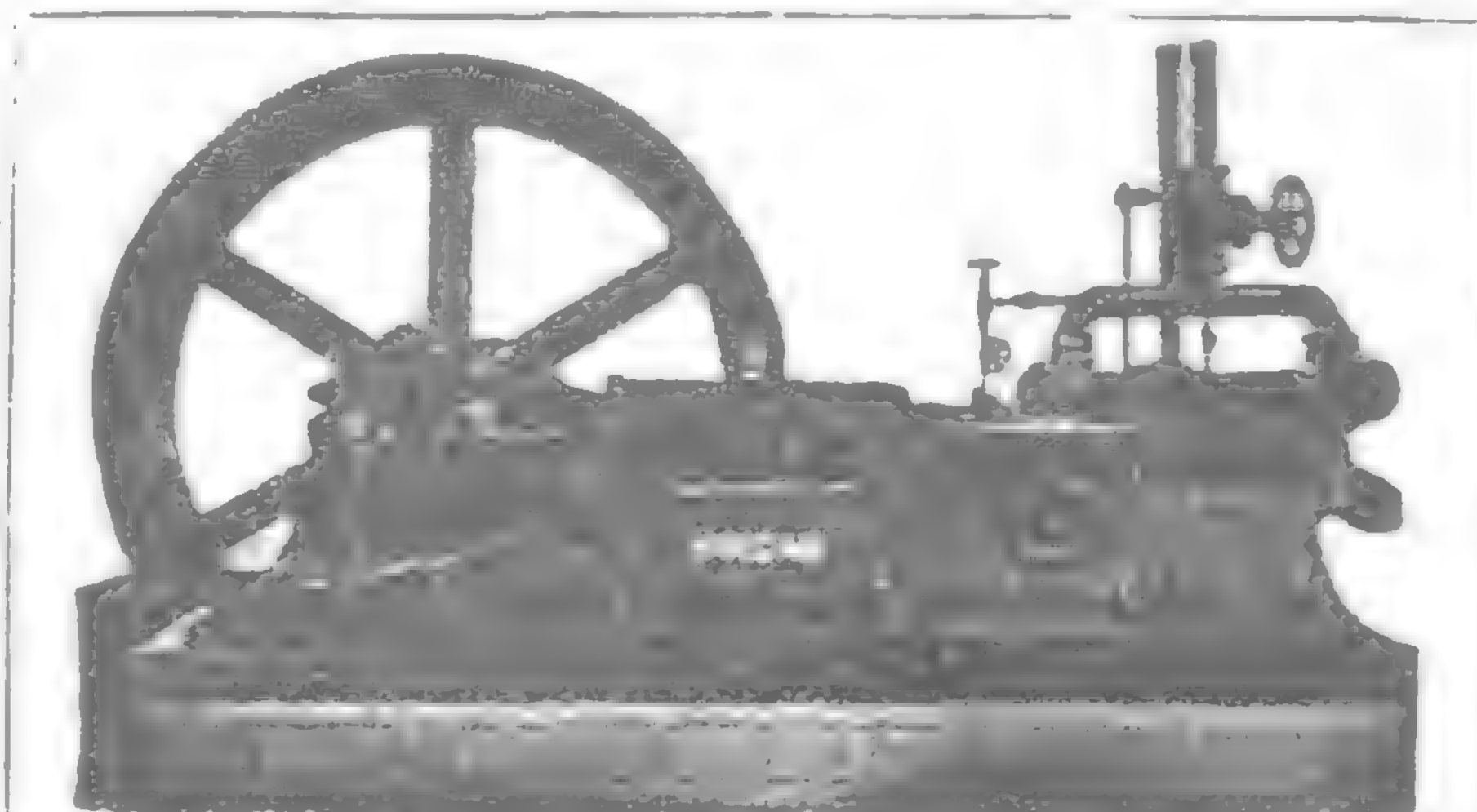
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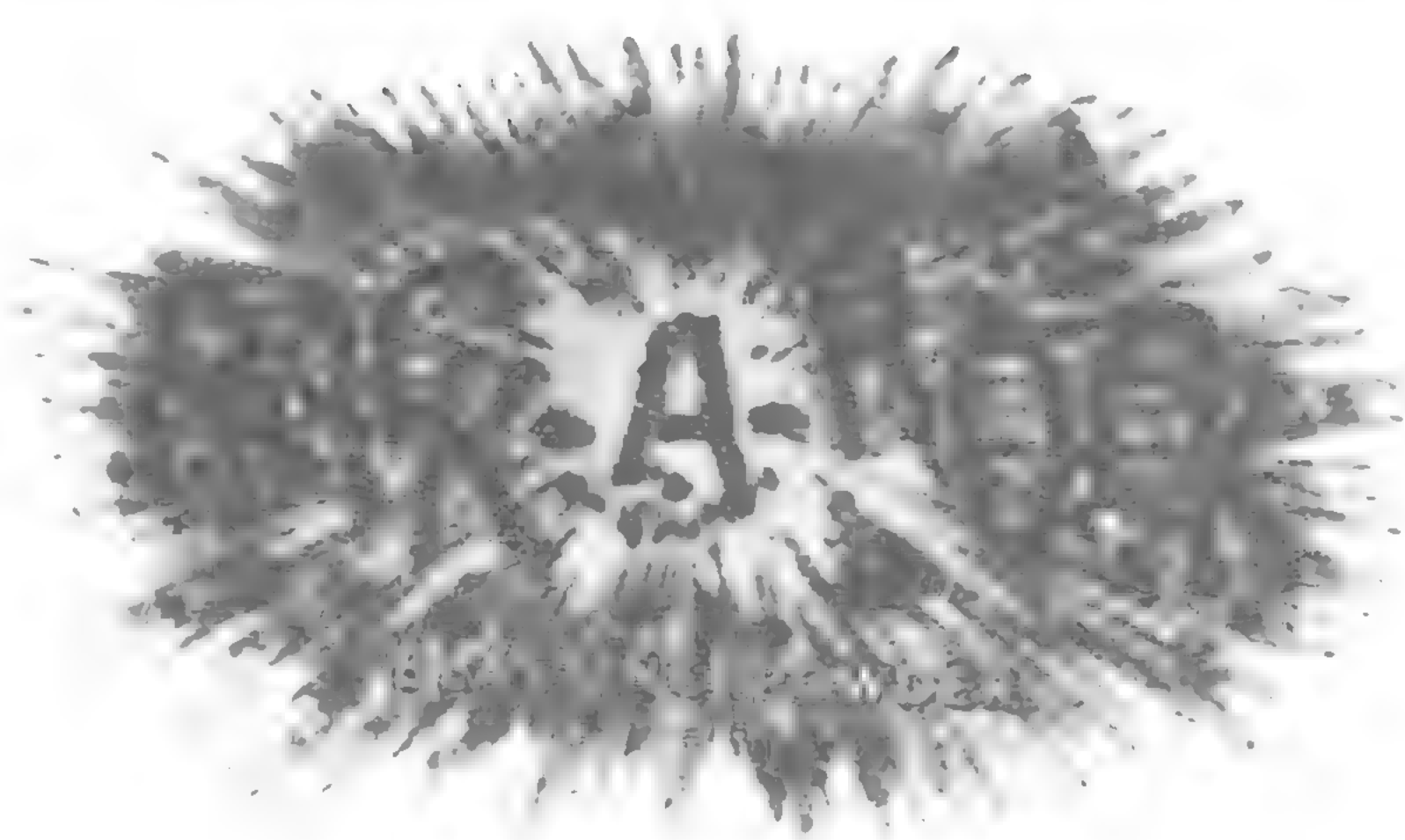
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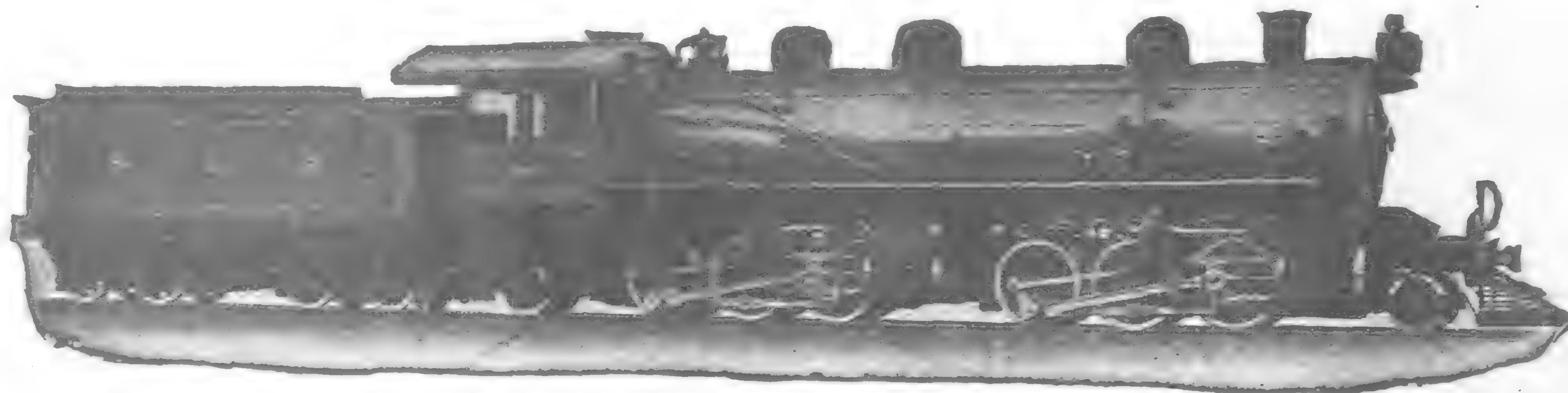


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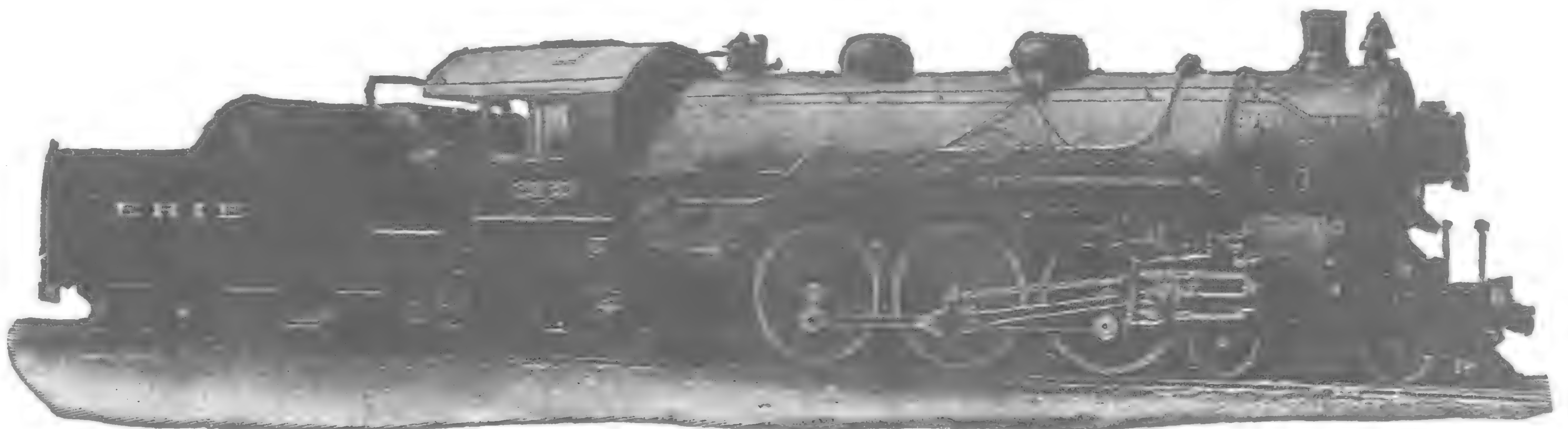
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Cylinders, 27 × 28 inches	Weight on drivers, 176,000 lbs.
Driving wheel base, 14 ft.	Total Weight, 287,000 lbs.
Total Wheel base, 36 ft. 2 inches	Tractive Power, 40,700 lbs.
Drivers, diameter 79 inches	Factor Adhesion, 4.24
Boiler, straight locomotive type	Superheater, Schmidt
Boiler diameter 79 inches	Valve motion, Baker

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DECAPOD TYPE LOCOMOTIVE, RUSSIAN STATE RAILWAYS

Cylinders, 25" × 28"

Driving-wheels, diameter 52"

Steam pressure, 180 lbs.

Grate area, 64.5 sq. ft.

Water heating surface, 2,601 sq. ft.

Superheating Surface, 563 sq. ft.

Weight on driving-wheels, est., 176,000 lbs.

Weight, total engine, est., 198,000 lbs.

Tractive force, 51,500 lbs.

The illustration shows one of 250 freight locomotives recently built by The Baldwin Locomotive Works for the Russian State Railways. These locomotives have a gauge of 5'-0", and were designed to haul 1,000 tons up a straight grade of 0.8 per cent. at a speed of 8 to 10 miles per hour. This they should be able to do easily, while working at a fairly economical cut-off. Plain tires, without flanges, are used on the middle pair of driving-wheels; and the front and rear wheels have sufficient side play to enable the locomotives to traverse curves of 350 feet radius.

These locomotives use an inferior grade of bituminous coal, which is burned on a wide grate placed above the rear pair of driving-wheels. The inside fire-box is of copper, and copper stays are used in the water-legs. The equipment includes a brick-arch supported on water-tubes; also a superheater of the Schmidt type. The fire-door and reverse gear are power-operated. Careful attention has been given to the design of the machinery and reciprocating parts, in order to reduce weight where possible.

In general design, these locomotives follow American practice closely, although much of the equipment conforms to Russian standards; and the cab fittings are so arranged that Russian enginemen can handle the locomotives without difficulty.

THE BALDWIN EXHIBIT AT THE PANAMA PACIFIC INTERNATIONAL EXPOSITION WAS AWARDED THE GRAND PRIZE.

THE BALDWIN LOCOMOTIVE WORKS

Cable Address:—"BALDWIN, PHILADELPHIA"

PHILADELPHIA, PA., U. S. A.

Agents for China:—ARNHOLD, KARBERG & Co., SHANGHAI, TIENTSIN, HONGKONG and HANKOW

Agents for Japan:—SALE & FRAZAR, Ltd., TOKYO.

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The best and most efficient Coal
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GAS ENGINE COAL

specially graded to any size required

Prices on application to:—

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力 動 氣 煤

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福 公 司 河 南 無 煙 煤 最 爲 良 美 合 用

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價 目 祈 詢 問

福 公 司

上 海

天 津

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27,000 PYLE-NATIONAL ELECTRIC HEADLIGHTS IN SERVICE



Actual Photograph taken on the Chicago, Rock Island and Pacific R.R., with no other light but the Pyle-National Electric Headlight. The station seen is half a mile from the engine.

A Pyle-National Electric Headlight gives a Great Beam of Clear, Strong, Penetrating Light that distinctly illuminates the Track for Half a Mile Ahead of the Locomotive, enabling the Engine Driver to maintain Schedules, verify Signals and avoid Accidents.

Three Railroads are each operating more than 1,700 Pyle-National Headlights.

Four Railroads more than 1,000 each. Twelve Railroads more than 500 each.

PYLE-NATIONAL ELECTRIC HEADLIGHT COMPANY

900 So. Michigan Ave., Chicago, Ill., U.S.A.

Export Agents. Railway Materials Export Corporation. 149 Broadway, New York, U.S.A.

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A CLEAR AND SPARKLING
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INDUSTRIAL, OR ESTATE

Our Expert Staff is at your service to design free of charge a plant to suit your conditions and upon which you can rely with certainty.

Our Patented Filters, Processes, and Apparatus, cover the whole field of water purification in all its branches.

THE CANDY FILTER Coy. Ltd., WESTMINSTER, LONDON



Agents for China:—

THE WORTHINGTON PUMP Co., Ltd.

3 Kiukiang Road
SHANGHAI



To Manufacturers :-: Mill Owners :-: Engineers.

SOCONY Lubricating Oils are manufactured by the most scientific processes. Expert refiners prepare each and every grade so that it will give the highest possible amount of efficiency under working conditions. Every ounce of the whole load of your factory comes on the Cylinder and Valves and the best Lubrication you can give them, is not too good. Idle engines earn no money, but are a constant source of expense. High engine efficiency is only obtained by perfect lubrication with Standard Lubricants.

Although a High Class Oil costs more initially, in the end it is far cheaper, its economical life is longer, its Lubricating qualities greater, and its consumption less.

Railway Lubrication has always been the cause of endless worry to the engineer. The best oils should be used, as exhaustive tests have proved that the cost of coal required to overcome the friction was 3 times the cost of a Cheap Lubricant, and the cost to renew the metal was 6 times the cost of a Cheap Lubricant.

STANDARD OIL COMPANY OF NEW YORK

Lubricating Oil Department

Dealers and Branches all over China

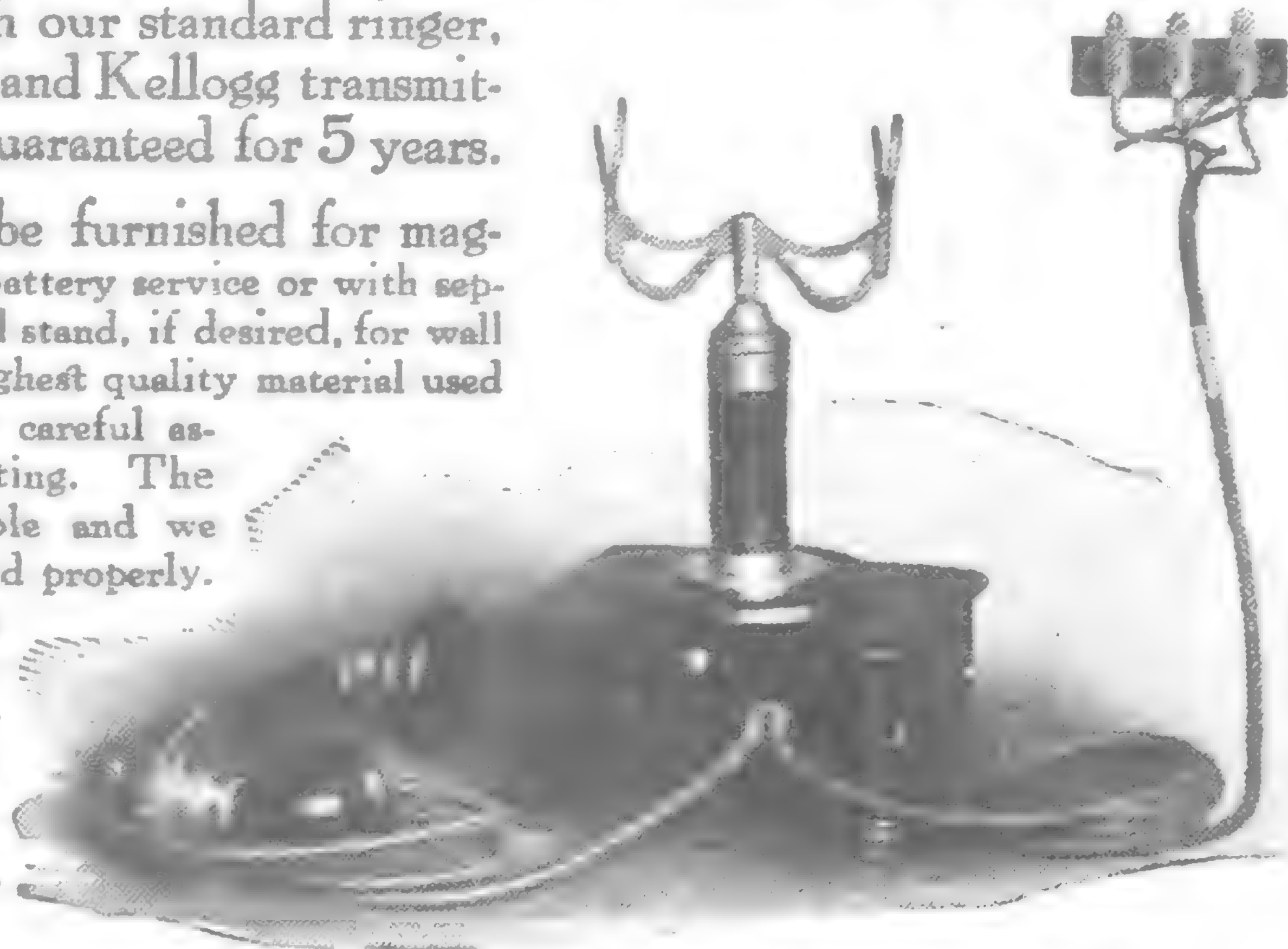
Kellogg System — the Standard Telephone Equipment

FOR all telephonic purposes—portable telephone service, intercommunication systems, local lines, small magneto exchanges, universal exchange, common battery systems—KELLOGG SYSTEM is the most efficient service in the world. The largest or smallest telephone unit supplied.

A popular type of Kellogg Telephone is illustrated. It is a compact and reliable model, and assures a service that avoids trouble and repair expense. The parts are easily accessible; the most convenient type of telephone to use for all conditions and purposes. Equipped with our standard ringer, induction coil and Kellogg transmitter which is guaranteed for 5 years.

The set can be furnished for magneto or common battery service or with separate bell box and stand, if desired, for wall or table use. Highest quality material used throughout with careful assembling and testing. The price is reasonable and we ship promptly and properly. Built in our own extensive factory. **KELLOGG System is in universal use.**

"USE is the TEST"



Write for the **KELLOGG BULLETINS**. "A fund of information as to the technical working of the telephone apparatus. Sent free on request."

Kellogg Switchboard and Supply Co.

Frank L. Strong Machinery Co.
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Yuen Ming Yuen Road, SHANGHAI

GOULDS PUMPS FOR EVERY SERVICE

THE many years of experience which this company has had in furnishing pumps to the export trade has given us an intimate knowledge of the pump requirements in every civilized country.

This experience has enabled us to develop and manufacture for export business, a line of pumps which is unequalled anywhere.



Fig. 3000
Centrifugal
Pump



Fig.
1454
Deep
Well
Work-
ing
Head

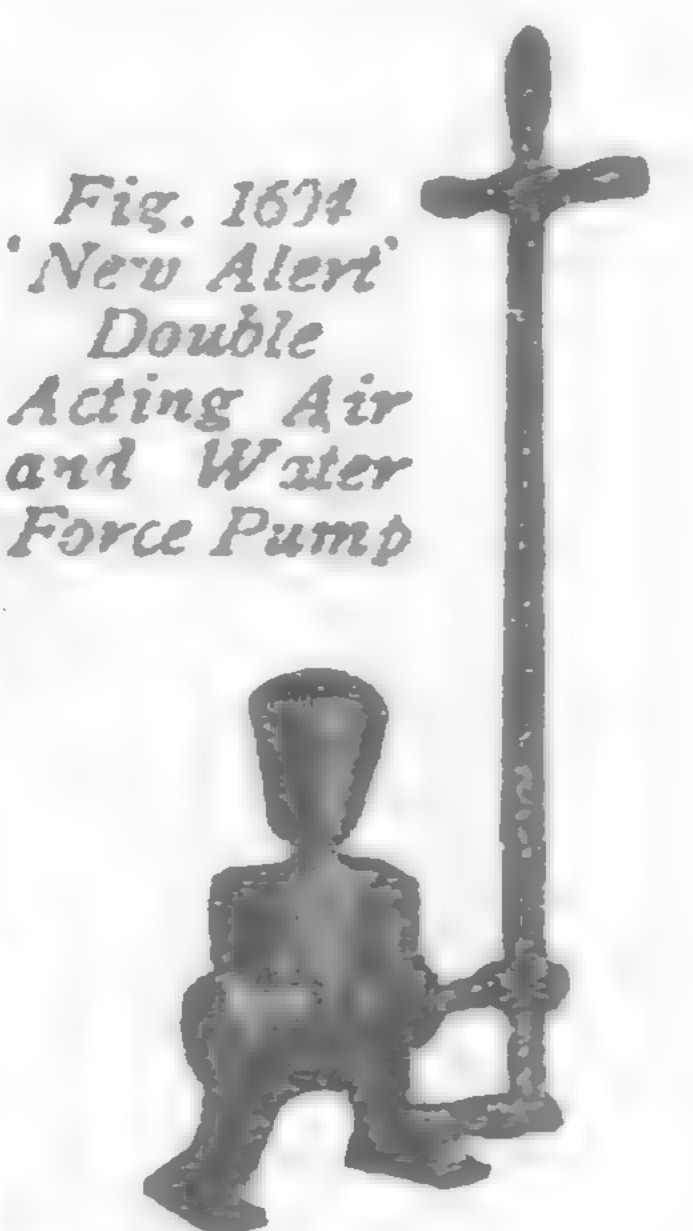


Fig. 1674
'New Alert'
Double
Acting Air
and Water
Force Pump

This line consists of
Triplex Power Pumps
Deep Well Power Pumps
Centrifugal Pumps
Hand and Power Pumps
for Pneumatic and Gravity
Water Supply Systems
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Diaphragm Pumps
Vacuum Pumps
Rotary Pumps and many
other types for standard
and special services.

Write for Catalogue which describes complete line.

The Goulds Manufacturing Co.

Main Office and Works
Seneca Falls, New York, U. S. A.

Cable Address: "Glavis Seneca Falls"
A. B. C. Liebers, Western Union and Private Code

The AUSTIN Drainage Excavator

digs, in one operation, a clean ditch, conforming to plan—true to line, grade and cross-section, with sloping banks, clean berms, and spoil embankments finished exactly as desired.



There are Austin Trenchers and Excavators in many sizes and styles for the construction of Open Ditches—for drainage or irrigation—and of Canalization Systems—for sewer, water and gas pipe mains.

Write for Complete Catalogue "L.F."

When writing describe proposed work, giving dimensions of ditches and character of soil.

F. C. AUSTIN Drainage Excavator Company,

Railway Exchanges, Chicago, U.S.A.

Cables: "EXCAVATOR, CHICAGO."

Codes: LIEBERS, A.B.C., Fifth Edition, and Western Union.

'DIAMOND' CHAINS

for

Cycles, Motorcycles, Automobiles,
Motor Trucks and Power Transmission

PRODUCED in the largest factory in the United States devoted exclusively to the manufacture of high-grade steel block and roller chains. For twenty-five years 'Diamond' Chains have been recognized as the American Standard.

We are prepared to serve the trade promptly with high-grade chains, which are strong, durable and accurately manufactured.

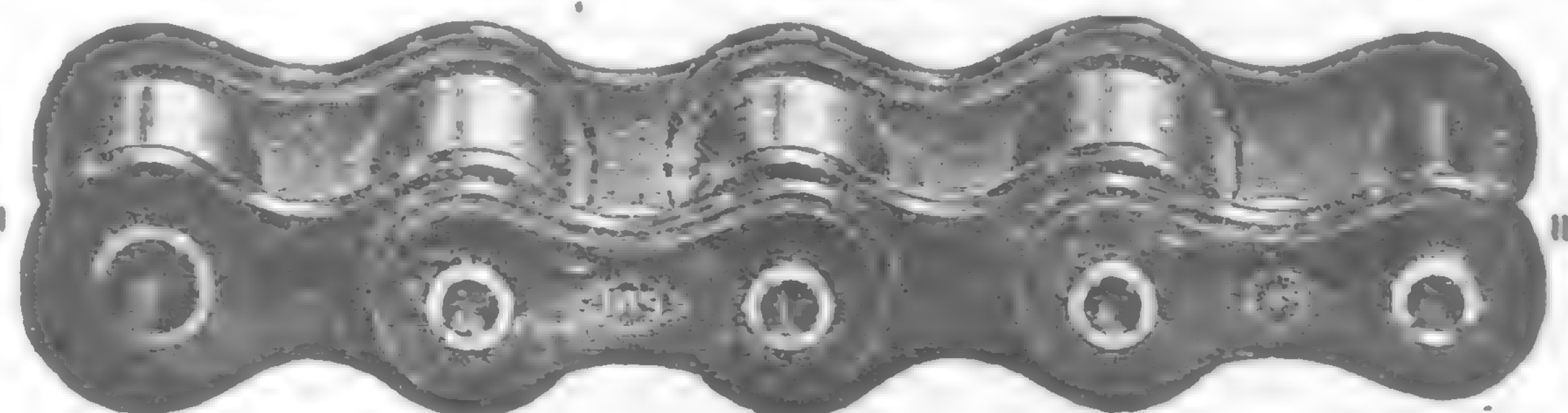
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Diamond Chain & Mfg. Company
Indianapolis, Indiana
U. S. A.

Cable Code — A. B. C. 4th & 5th Editions
Cable Address — "Chain" Indianapolis



FRANK L. STRONG MACHINERY CO.

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MANILA, P. I.

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NILES CEMENT-POND COMPANY,
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CHINESE GOVERNMENT RAILWAYS

THE TAO-CHING RAILWAY

TAOKOU TO CHINGHUA

(CHINESE GOVERNMENT HONAN LINE)



GENERAL VIEW OF COAL MINES ON THE LINE OF THE TAO-CHING RAILWAY

"China's Road of Anthracite"

THE TRAINS OF THIS LINE CONNECT AT SIN-SIANG-SIEN WITH THE THROUGH SERVICE OF THE PEKING-HANKOW RAILWAY. IT TAPS THE GREAT ANTHRACITE COAL DEPOSITS OF SHANSI, AND CONVEYS THE PRODUCTS OF THE MINES TO THE NEAREST NAVIGABLE RIVER.



THE YELLOW RIVER BRIDGE ON THE PEKING-HANKOW LINE

CHINESE GOVERNMENT RAILWAYS

PEKING-HANKOW LINE

"THE ROAD THROUGH THE HEART OF CHINA"

Avoid the Cold and Rough Weather in the Sea Trip between Shanghai and the North by the more comfortable Route up the Yangtsze to Hankow, and from there via the Ching-Han Railway to Peking, where through connections for Europe are made with the Trains de Luxe of the Government Railways of North China.

This line passes through the Heart of the Country and enables the traveller to and from Europe to catch a glimpse of Old China. Ancient walled cities, temples and pagodas are seen from the comfortable seats of the weekly trains de luxe operated by this line. From Peking, the great capital of the oldest civilization in the world, the train departs from the famous Chien-Men and carries the traveller through the historical and legendary portions of the Country, to the modern industrial center at Hankow—the Chicago of China. Connections are made with the Cheng-Tai Railway at Chengtingfu, with the Tao-Ching Line at Sin Siang-sien, and at Chengchowfu with the Pienlo Line.

A weekly express train de luxe leaves Peking every Tuesday, and Hankow every Friday, making the trip of over 700 miles in less than thirty hours.

For information apply to any office of the International Sleeping Car Co. or Thos. Cook and Sons.

Chinese Government Railways

The Cheng-Tai Railway

(CHINESE GOVERNMENT SHANSI LINE—CHENGTINGFU TO TAIYUANFU)

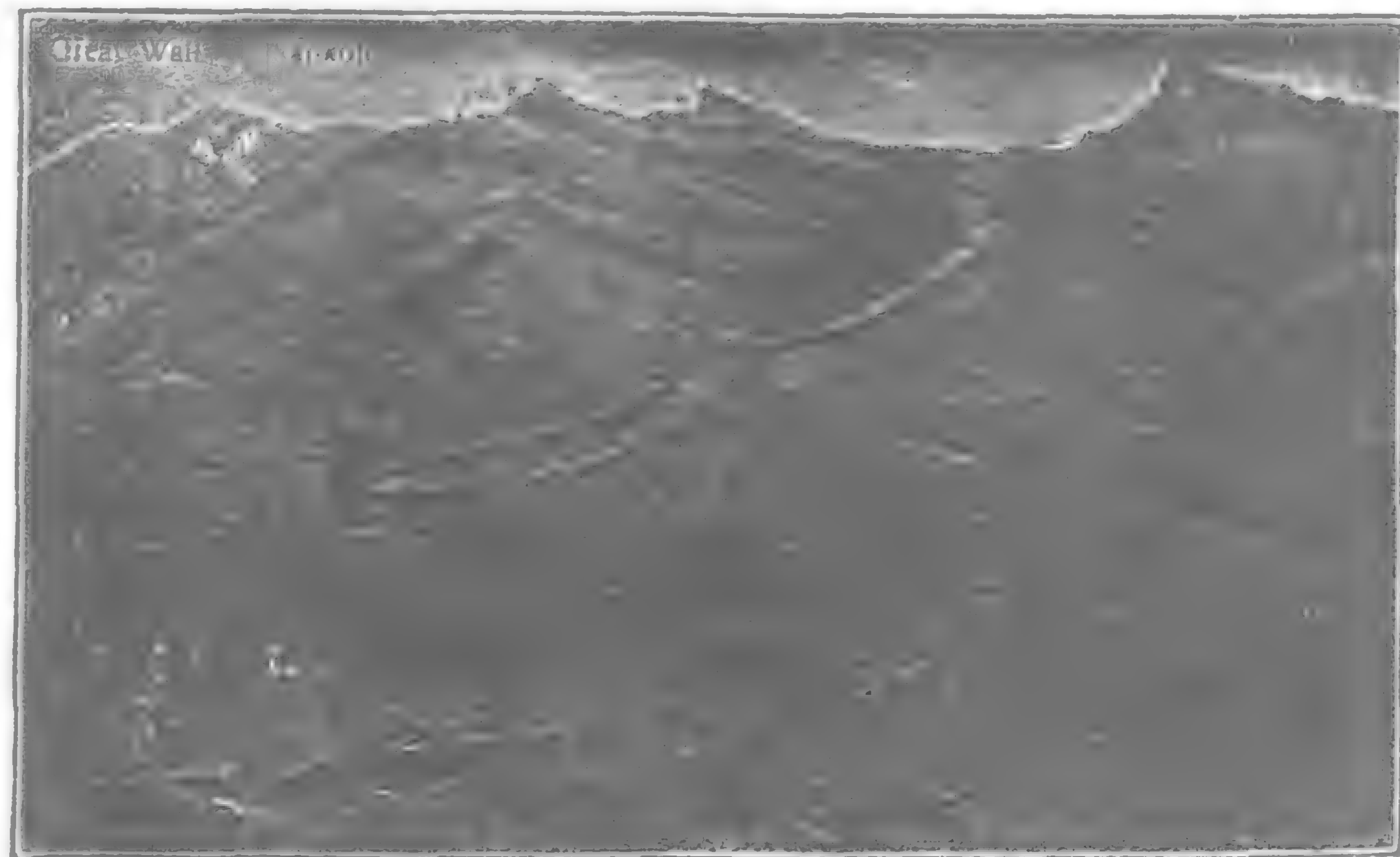


VIEWS ALONG ROUTE OF CHENG-TAI RAILWAY

The trains of this line connect with the through service of the Peking-Hankow Railway, affording Travellers the opportunity of seeing the most picturesque part of China. The line passes through a mountainous section of country, rich in Mineral Resources to the Provincial Capital of Shansi at Taiyuanfu. This interesting city is a great educational center, and famous for the fine quality of its artistic embroideries.

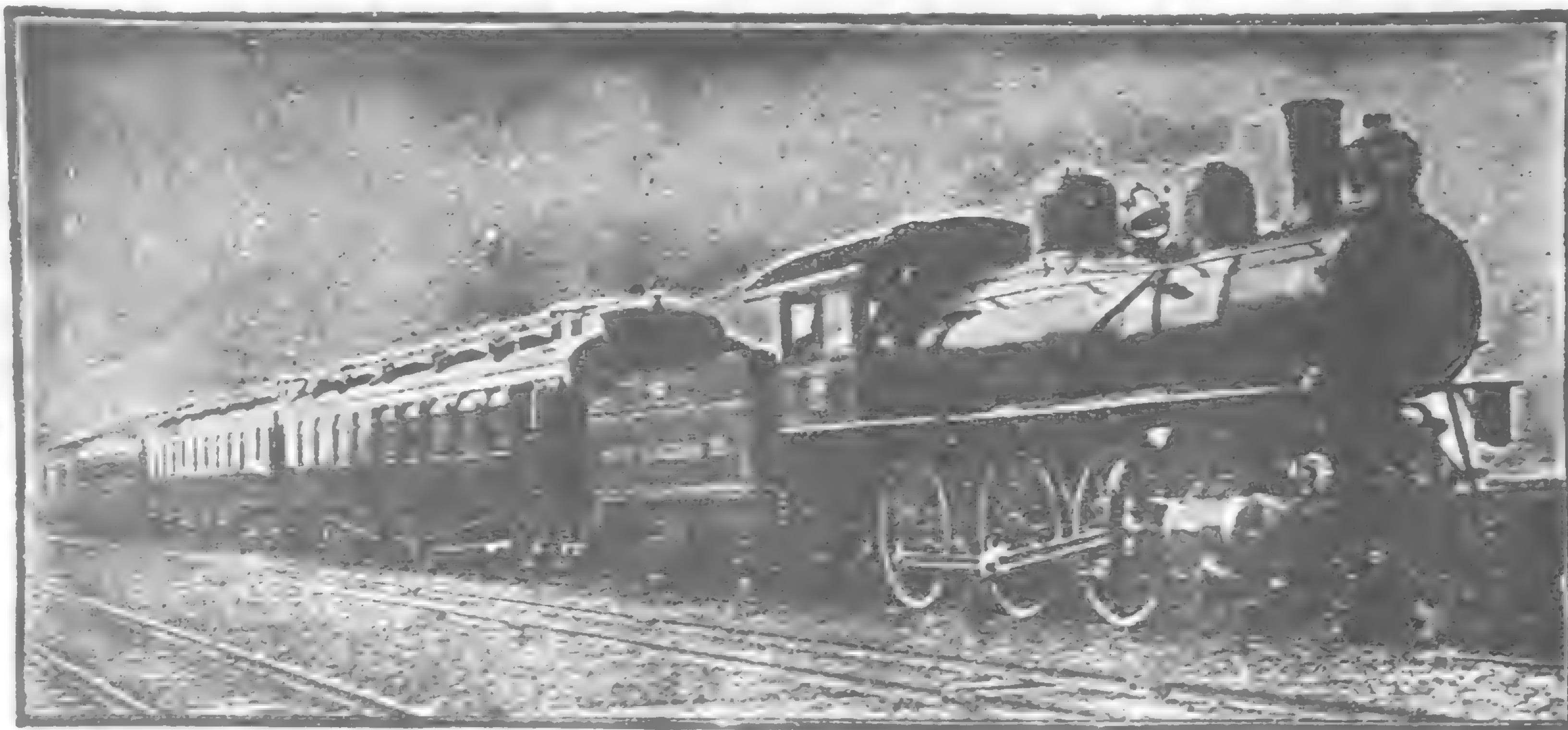
The Peking-Kalgan Line

"THE ROAD TO THE GREAT WALL"



This line follows the ancient caravan route and military highway from Mongolia into China by the way of the historic Nankow Pass. This pass is the Key to Peking, and Kalgan is the gate of the Country. From here the great camel caravans set out on their long journeys across Mongolia to Siberia and Central Asia. This old frontier mart, retaining its time-honored characteristics, one of the most interesting sights of the Old World, is made accessible by the new railway. The line also carries the passenger in two hours from Peking to Nankow, when the Great Wall of China and the Ming Tombs may be seen. A foreign hotel is operated by the railway authorities at Nankow, where chairs and guides may be secured for the Tombs.

**SHORTEST, QUICKEST, AND
CHEAPEST ROUTE
BETWEEN THE FAR EAST
AND EUROPE**



THE SOUTH MANCHURIA EXPRESS

Shanghai to London in 13½ days

Tokio " " " 13¼ "

" " Peking " 3½ "

Dairen " Moscow " 8¾ "

South Manchuria Railway



THRICE WEEKLY EXPRESS TRAINS.—Composed of excellently equipped SLEEPING, DINING, and 1st CLASS CARS. Operated between DAIREN and CHANGCHUN in connection with the TRANS-SIBERIAN ROUTE and SHANGHAI MAIL STEAMERS.

SLEEPING CAR

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CONNECTIONS AT MUKDEN.—These Express Trains connect at MUKDEN with the PEKING-MUKDEN RAILWAY running via TIENTSIN and with the newly organized MANCHURIA-CHOSEN THRICE WEEKLY EXPRESS SERVICE between Changchun and Fusan; the MUKDEN-ANTUNG LINE (now running throughout on standard gauge) connecting with the KOREAN RAILWAY; by this route the journey between Europe and Japan is shortened by two days, and the sea voyage considerably reduced.

OTHER STEAMER CONNECTIONS AT DAIREN.—Regular Steamship Services are maintained from DAIREN to MOJI, KOBE, CHEMULPO, TIENTSIN, CHEFOO, TSINGTAU, and other ports in Japan and China.

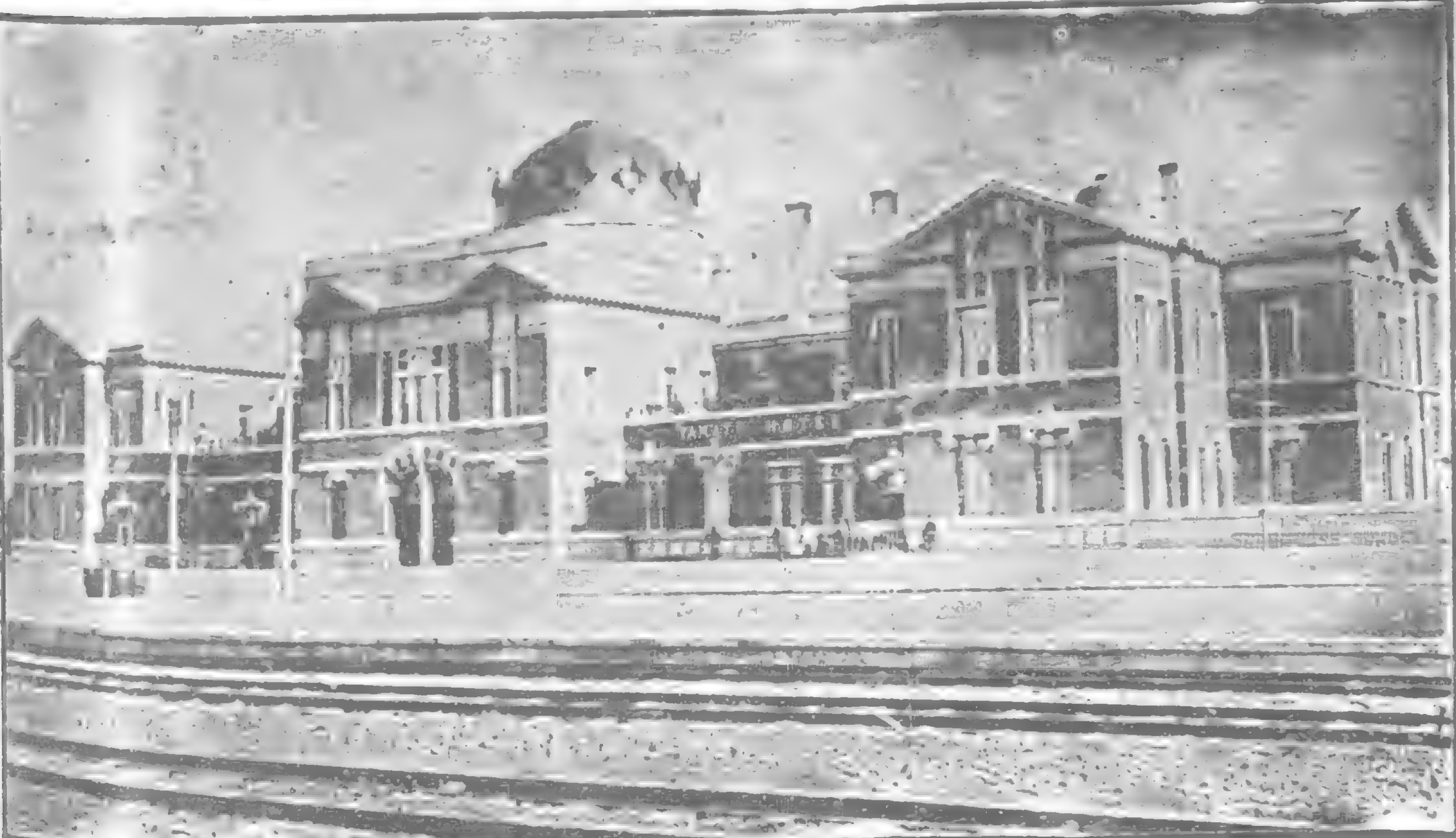


S. M. R. YAMATO HOTEL, HOSHIGAUHA (STAR BEACH)

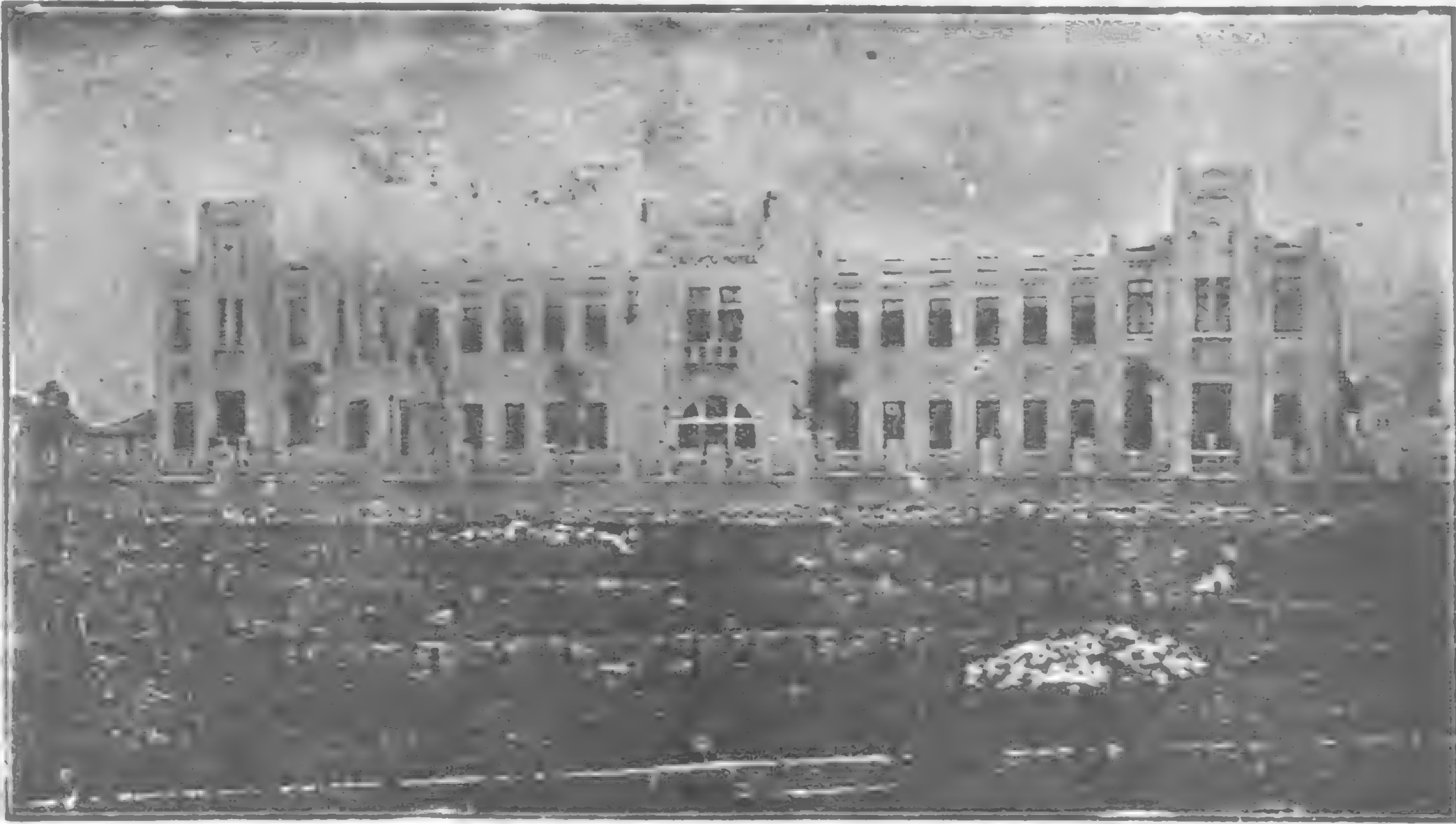
RAILWAY HOTELS.—YAMATO HOTEL (Tel. Add: "Yamato") at DAIREN, PORT ARTHUR, MUKDEN, CHANGCHUN, and HOSHIGAUHA, all managed by the Company on European lines and providing comfortable accommodation.

At Hoshigaura ("Star Beach"), the finest seaside resort in North China, 5 miles from Dairen, in addition to the hotel, there is a large number of bungalows (for hire at moderate terms), situated in a charming cliff garden and surrounded by beautiful scenery.

TICKET AGENTS IN EUROPE AND THE FAR EAST.—The INTERNATIONAL SLEEPING CAR & EXPRESS TRAINS CO.; The NIPPON YUSEN KAISHA, Shanghai; Messrs. THOS. COOK & SON; the REISEBUREAU DER HAMBURG-AMERIKA LINIE; and the NORDISK RESEBUREU. Time-tables, fares, literature, and any information can be obtained gratis upon application to the Traffic Department.



S. M. R. YAMATO HOTEL, MUKDEN



S. M. R. YAMATO HOTEL, CHANGCHUN

SOUTH MANCHURIA RAILWAY COMPANY, DAIREN, MANCHURIA

Tel. Add.: "MANTETSU"

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Codes: A. B. C. 5th Ed., A-1, and Lieber's

CHINESE GOVERNMENT RAILWAYS

TIENTSIN-PUKOW LINE



THE YELLOW RIVER BRIDGE

Mukden-Peking-Kalgan-TIENTSIN-TSINANFU-HSUCHOWFU-PUKOW-Nanking-Shanghai.
all by rail only.

Being the **quickest, surest and most convenient** connection between Shanghai on the one and Tientsin, Peking, Kalgan, Mukden and the **Siberian route on the other side**, this railway represents **a saving of many hours, of many troubles, worries and inconveniences** for the busy merchant, the home tripper on short furlough.

The tourist, the globe trotter travelling with more leisure and bent on seeing things, it takes right away from the stereotyped banality of the great ports, takes him through many provinces of the vast republic and shows him **something of the "real" China**, of its people, its history and its beauty.

Express trains equipped with sleeping and buffet cars run once a week each way between Pukow (Nanking) and Tientsin connecting with the through service of the South-Manchuria and Trans-Siberian Railways.

Through mail trains equipped with **buffet cars run daily each way** between the before mentioned termini.

The crossing over the Yangtsekiang between Nanking and Pukow is effected by means of a modern 100-tons twin-screw ferry boat.

Special facilities and **liberal allowances** for passengers' baggage.

Best of **meals and wines supplied** on the trains.

Sanitation under the personal supervision of a **qualified medical officer**.

For further particulars apply to THE TRAFFIC MANAGER, Head Office, TIENTSIN or to the Agencies of Messrs. Thomas Cook & Sons, The International Sleeping Car & Express Trains Co. or the Nordisk Resebureau.

Telegraphic Address: TSINPURY—Tientsin (Tsinanfu, Nanking, Shanghai).

Codes: A B C 5th Edition; Broomhalls' (with Suppl. No. 1).

Tientsin, May 1st, 1915.

The Tientsin-Pukow Railway Administration.

中華民國政府吉長鐵路行車時刻表
CHINESE GOVERNMENT RAILWAYS KIRIN-CHANGCHUN LINE.
TIME TABLE.

DOWN TRAINS		STATIONS.		UP TRAINS	
Daily				Daily	
Time	Mail			Mail	Mixed
P.M.	A.M.			P.M.	A.M.
2.30	7.30	dept.	TOUTAOKOU	arr.	6.25 10.47
2.38	7.38	arr.	CHANGCHUN	dept.	6.15 10.37
2.45	7.41	dept.		arr.	6.10 10.31
3.20	8.12	arr.	KALUN	dept.	5.40 9.57
3.25	8.14	dept.		arr.	5.38 9.55
3.58	8.46	arr.	YINMAHO	dept.	5.06 9.22
4.02	8.48	dept.		arr.	5.04 9.20
4.17	9.02	arr.	HSIACHIUTAI	dept.	4.50 9.05
4.22	9.04	dept.		arr.	4.48 9.03
4.34	9.16	arr.	YINGCHENG TZE	dept.	4.36 8.50
4.38	9.18	dept.		arr.	4.33 8.48
5.03	9.40	arr.	TUMENLING	dept.	4.12 8.24
5.13	9.50	dept.		arr.	4.06 8.18
		arr.	CHAOCHIATIE	dept.	3.46 7.58
5.33	10.10	dept.		arr.	
5.57	10.31	arr.	HUAPICHANG	dept.	3.24 7.23
6.02	10.33	dept.		arr.	3.22 7.20
6.18	10.46	arr.	KUTIENTZE	dept.	3.08 7.04
6.20	10.47	dept.		arr.	3.07 7.03
6.38	11.03	arr.	KIUCHAN	dept.	2.52 6.45
6.43	11.05	dept.		arr.	2.50 6.42
7.05	11.25	arr.	KIRIN	dept.	2.30 6.20



BIRD'S EYE VIEW OF KIRIN CITY

NOTICE:—"dept."=Departure. "arr."=Arrival.
1st May, 1915, and until further notice.

THE PIENLO RAILWAY

(KAIFENG-FU TO HONANFU)
"THE FIRST SECTION OF THE PROJECTED CENTRAL TRUNKLINE"



THE SUNG TOMBS NEAR KAIFENG-FU ON THE PIENLO RAILWAY.

The line connects with the through service of the Peking-Hankow Railway at Tcheng Tchéou, enabling the traveller to visit Kaifengfu, the provincial capital of Honan, and the old capital of the Empire at Honanfu.

CANTON-KOWLOON RAILWAY

VIEWS ON THE BRITISH SECTION (22 MILES)

VIEWS ON THE CHINESE SECTION, 89 MILES. (Chinese Government Railways)



CANTON-KOWLOON RAILWAY—APPROACH TO KOWLOON



TAI SHA TAN STATION, CANTON

QUICKEST AND CHEAPEST ROUTE BETWEEN CANTON AND HONGKONG THROUGH VARIED AND BEAUTIFUL SCENERY

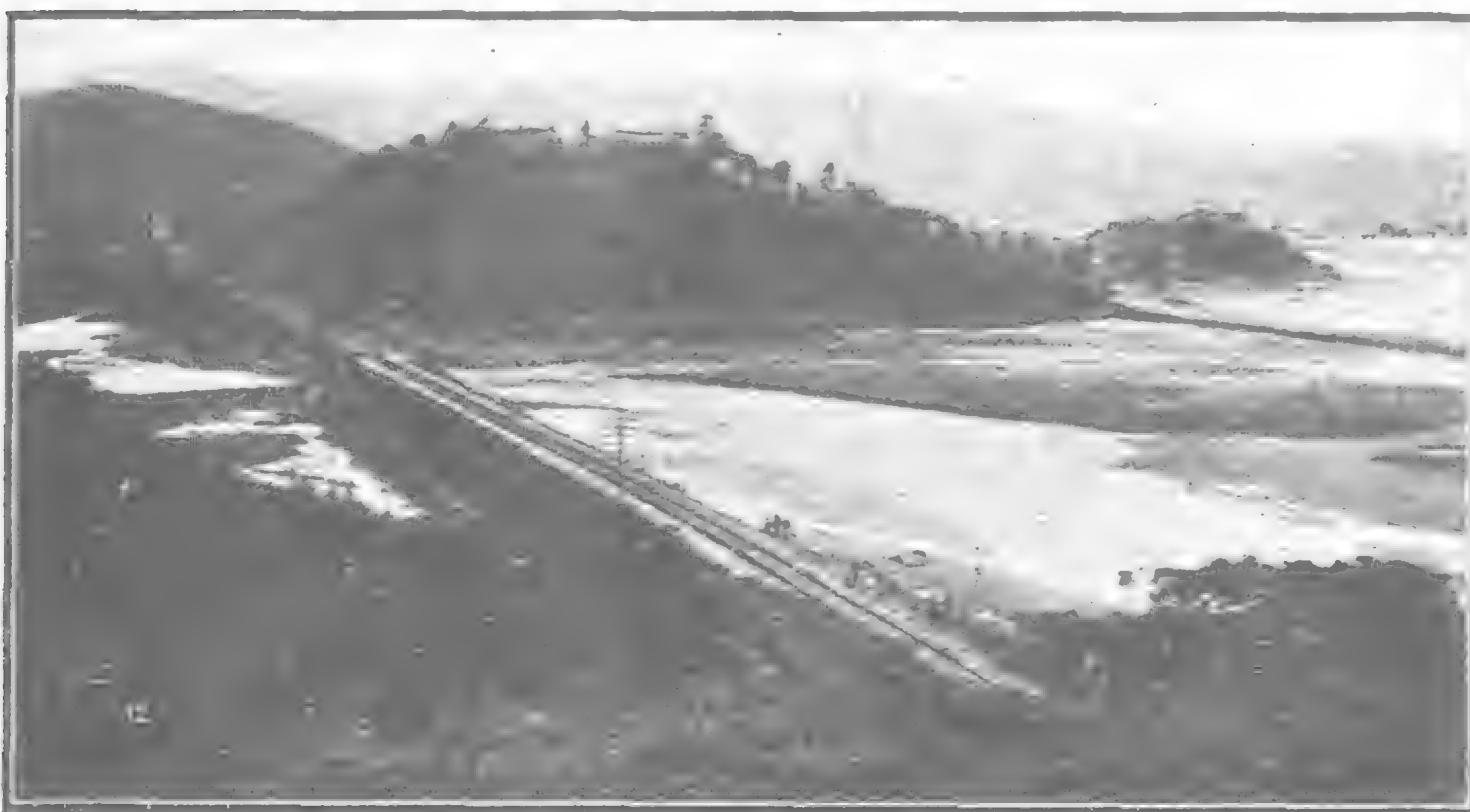


CANTON-KOWLOON RAILWAY—SCENE ALONG ROUTE



NEAR LE LOONG, CANTON-KOWLOON RAILWAY

TWO EXPRESS CORRIDOR TRAINS EACH WAY DAILY—HOT MEALS AND OTHER REFRESHMENTS SERVED



CANTON-KOWLOON RAILWAY—CROSSING TIDE FLATS



VILLAGES, CANTON-KOWLOON RAILWAY

4 1/4 HOURS BETWEEN UP AND DOWN TRAINS FOR BUSINESS MEN OR TOURISTS AT CANTON OR HONGKONG



CANTON-KOWLOON RAILWAY—EMBANKMENT APPROACH TO BRIDGE



EAST RIVER BRIDGE, CANTON-KOWLOON RAILWAY

TIME TABLE

Leave Hongkong (Kowloon) 9.30,* 11.15 a.m., 11.55* a.m. & *2.50 p.m. Leave Canton (Tai Sha Tau) 7.00,* 8.30 a.m. 12.00* noon & 4.20* p.m.
Arrive Canton (Tai Sha Tau) 10.40 a.m. and 6.10 & 4.30 p.m. 6.20 p.m. Arrive Hongkong (Kowloon) 10.30 a.m. and 4.14, 3.52 & 7.52 p.m.

Special terms and special trains for large tourist parties. For further particulars see advertisements or apply to

*Express The Manager (British Section) Kowloon, HONGKONG.

The Administration (Chinese Section) CANTON.

The Line of A Hundred Pagodas



SHANGHAI TERMINUS OF THE SHANGHAI-NANKING RAILWAY

**THREE EXPRESS SERVICES DAILY, WITH RESTAURANT AND SLEEPING CARS BETWEEN
SHANGHAI, SOOCHOW, WUSIH, CHANGCHOW, CHINKIANG AND NANKING**



THE WALLS OF NANKING

SEE
THE
NANKING
BATTLE-
FIELDS

DELIGHTFUL
WEEK
END
EXCURSIONS



TRAIN DE LUXE AT TIENTSIN SETTLEMENT STATION

CHINESE GOVERNMENT RAILWAYS OF NORTH CHINA

THROUGH SERVICE FROM PEKING TO MUKDEN, CONNECTING AT MUKDEN WITH THE SOUTH MANCHURIA EXPRESS FROM TRANS-SIBERIAN ROUTE: AT PEKING CONNECTION IS MADE WITH THE PEKING-HANKOW RAILWAY FOR HANKOW AND YANGTSE PORTS, AND INTERMEDIATE POINTS REACHED BY THE CHEN-TAI LINE TO TAIYUANFU, THE TAO-CHING LINE, AND THE PEINLO RAILWAY TO KAIFENGFU AND HONANFU. CONNECTION IS ALSO MADE AT PEKING WITH THE PICTURESQUE KALGAN LINE, "THE ROAD TO THE GREAT WALL."

THE RAILWAYS OF NORTH CHINA PASS THROUGH THE MOST INTERESTING PART OF CHINA

PEKING: THE CAPITAL, WITH ITS WALLS, PALACES, TEMPLES AND TOMBS.—**TIENTSIN:** THE GREAT TRADE CENTER OF NORTH CHINA.—**TONGSHAN:** THE LARGEST MINING AND INDUSTRIAL TOWN IN THE COUNTRY.—**SHANHAI-KWAN:** WHERE THE GREAT WALL ENDS AT THE SEA.—**NEW-CHWANG:** THE BUSY COMMERCIAL PORT OF MANCHURIA.—**MUKDEN:** THE ANCESTRAL HOME OF THE MANCHU DYNASTY. A MINIATURE PEKING, WITH ITS WALLS, IMPERIAL PALACES, TEMPLES AND TOMBS.



PEKING STATION



FIRST CLASS SLEEPING BERTH TRAINS DE LUXE

THE THROUGH TRAINS ARE EQUIPPED WITH BUFFET AND DINING CAR SERVICE, AND A COMFORTABLE, MODERN TRAIN DE LUXE OF COMPARTMENT SLEEPING COACHES HAS BEEN PLACED IN OPERATION THIS SEASON TO CONNECT WITH THE THROUGH SERVICE OF THE TRANS-SIBERIAN AND SOUTH MANCHURIAN RAILWAYS

For further information apply to any office in America or Europe of

The Cie. Internationale Des Wagons-Lits, Thos. Cook & Sons, or Railways of North China

TIENTSIN, NORTH CHINA
By order of Directorate

Chosen Railways

Most Important Link in the Round-the-World Routes via Siberia.
Safest and Quickest Overland Route between Europe or China and Japan.

Only 10 hours, Sea Passage between the Continent and Japan.
Best Opportunities for studying Unique Conditions in the Far East.



Chosen-Manchuria Express Fusan-Keijyo (Seoul)-Mukden-Changchun

Weekly Service. Most Up-to-date Accommodation: 1st and 2nd Class Sleeping Cars and a Dining Car.

CONNECTIONS:

With the Trans-Siberian Express.
With the Tokyo-Shimonoseki Train de Luxe.
With the Peking-Mukden Train de Luxe.

Daily Express

Fusan-Keijyo-Antung

Twice a day Service, taking all class Cars, besides 1st and 2nd Class Sleeping Cars (Keijyo-Fusan section only) and a Dining Car.

CONNECTIONS:

With trains on the South Manchuria Ry.
With express trains on the Japanese Rys.

Through Traffic

Stations open to through traffic are as follows:—

South Manchuria Railway.—

Dairen, Changchun, Mukden, Yingkou, etc.

Chinese Eastern Railway.—

Tsitsihar, Manchuria and Harbin.

Chinese Government Railways.—

Hsinmingfu, Shanhaikuan, Peking, Tientsin, Shanghai, Nanking, Tsinanfu, Hankow, Nankow and Kalgan.

Russian State Railways.—

Irkutsk, Odessa, Warsaw, Moscow and Petrograd.

Chosen Railways.—

Fusan, Keijyo (Seoul), Heijyo, † Jinsen and † Chinnampo.

Japanese Railways.—

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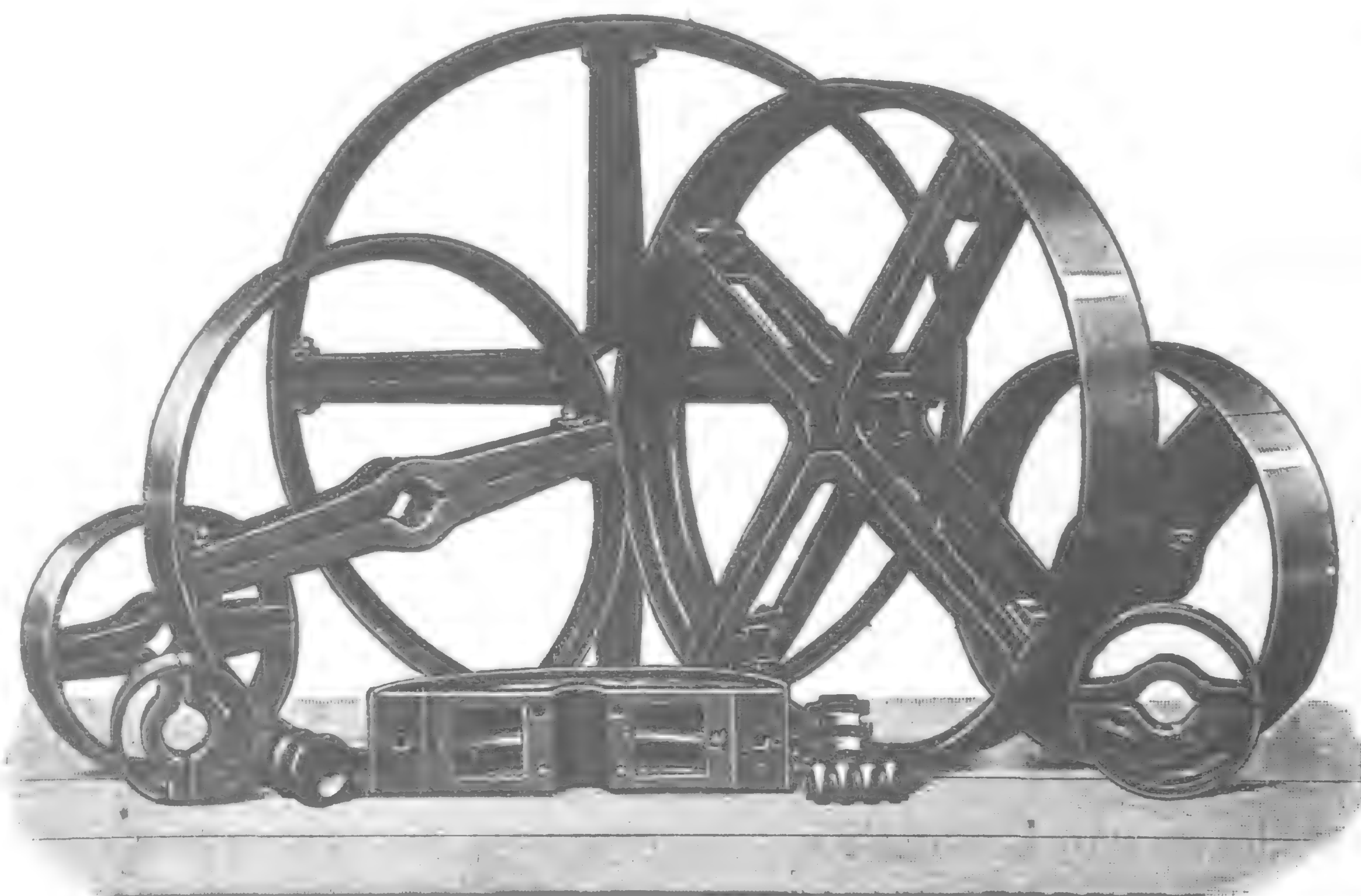
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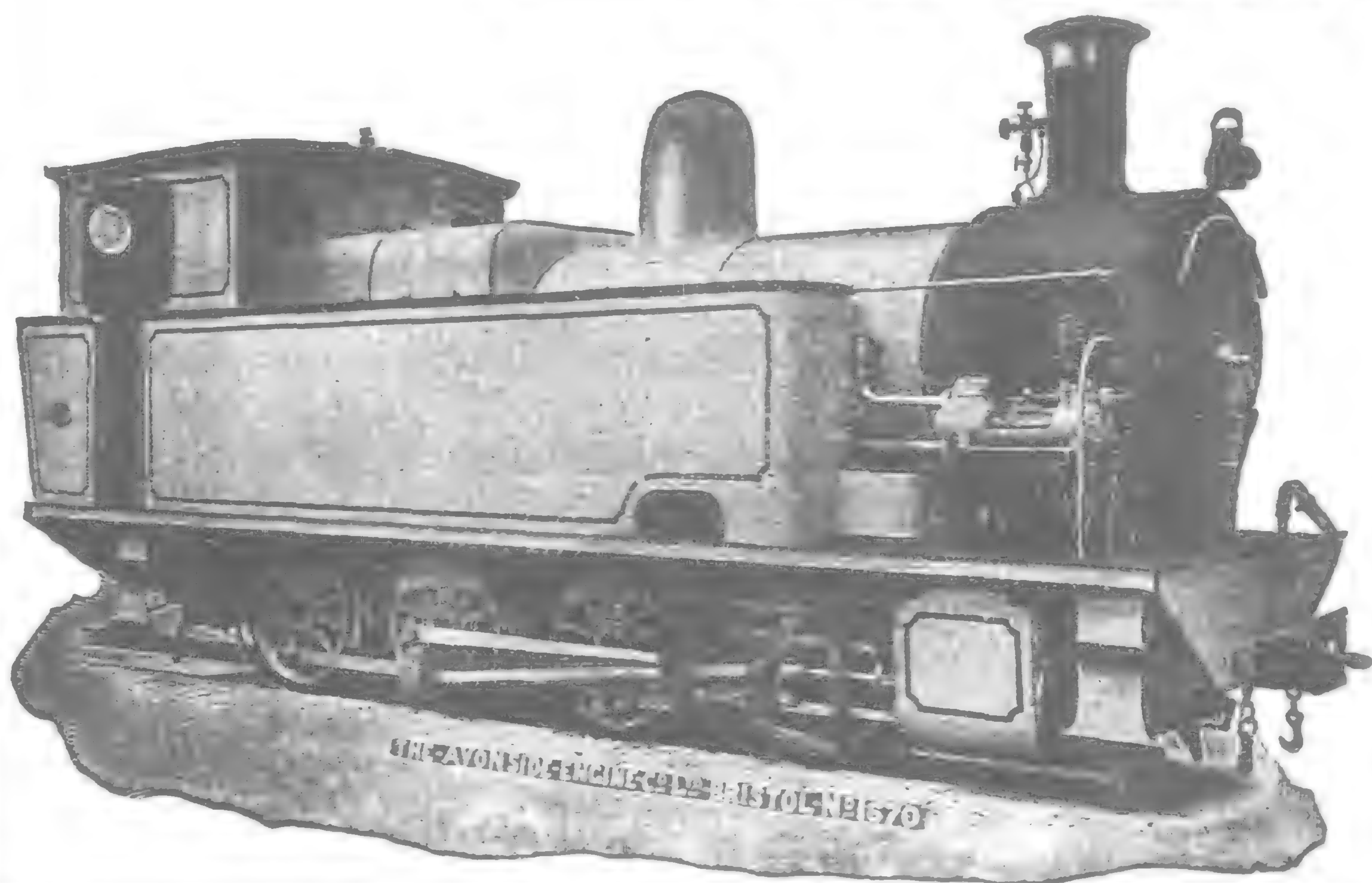
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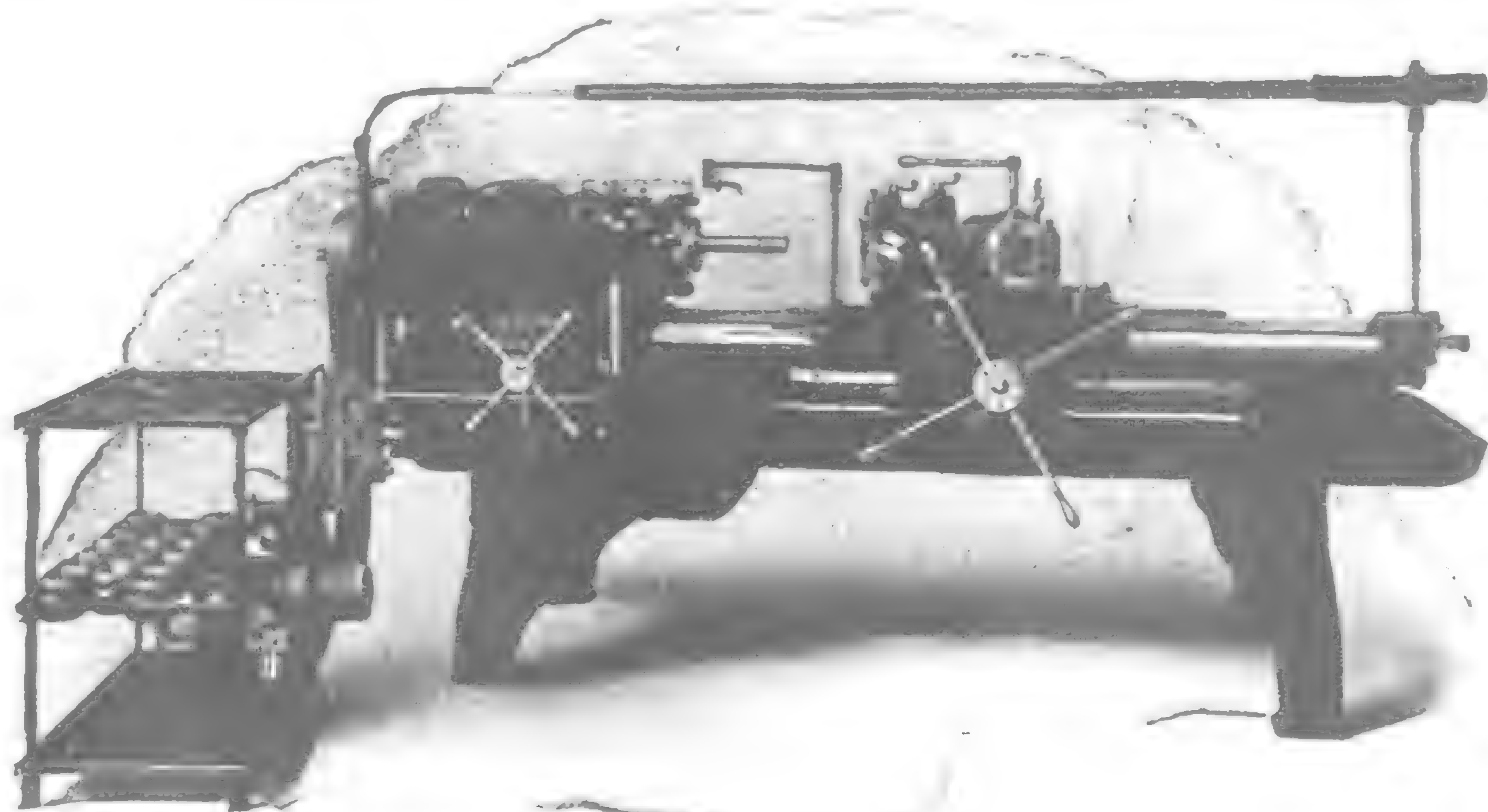
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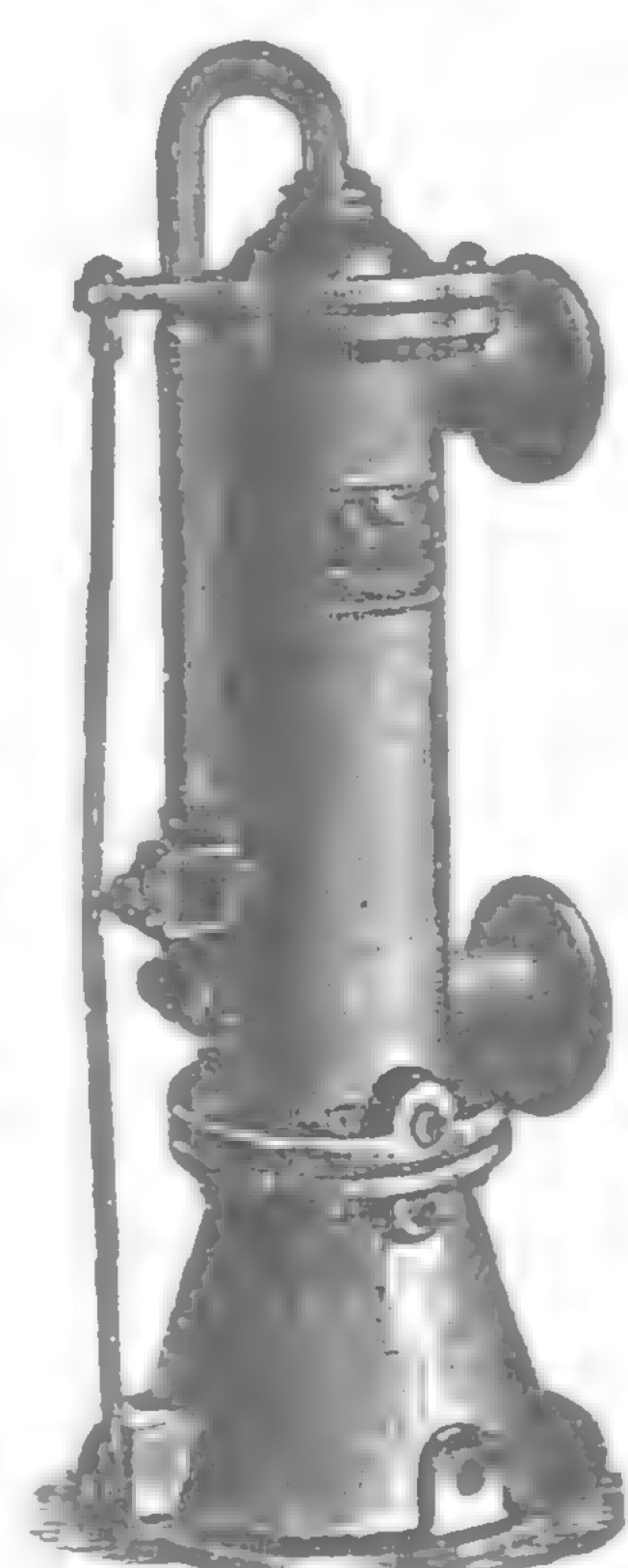
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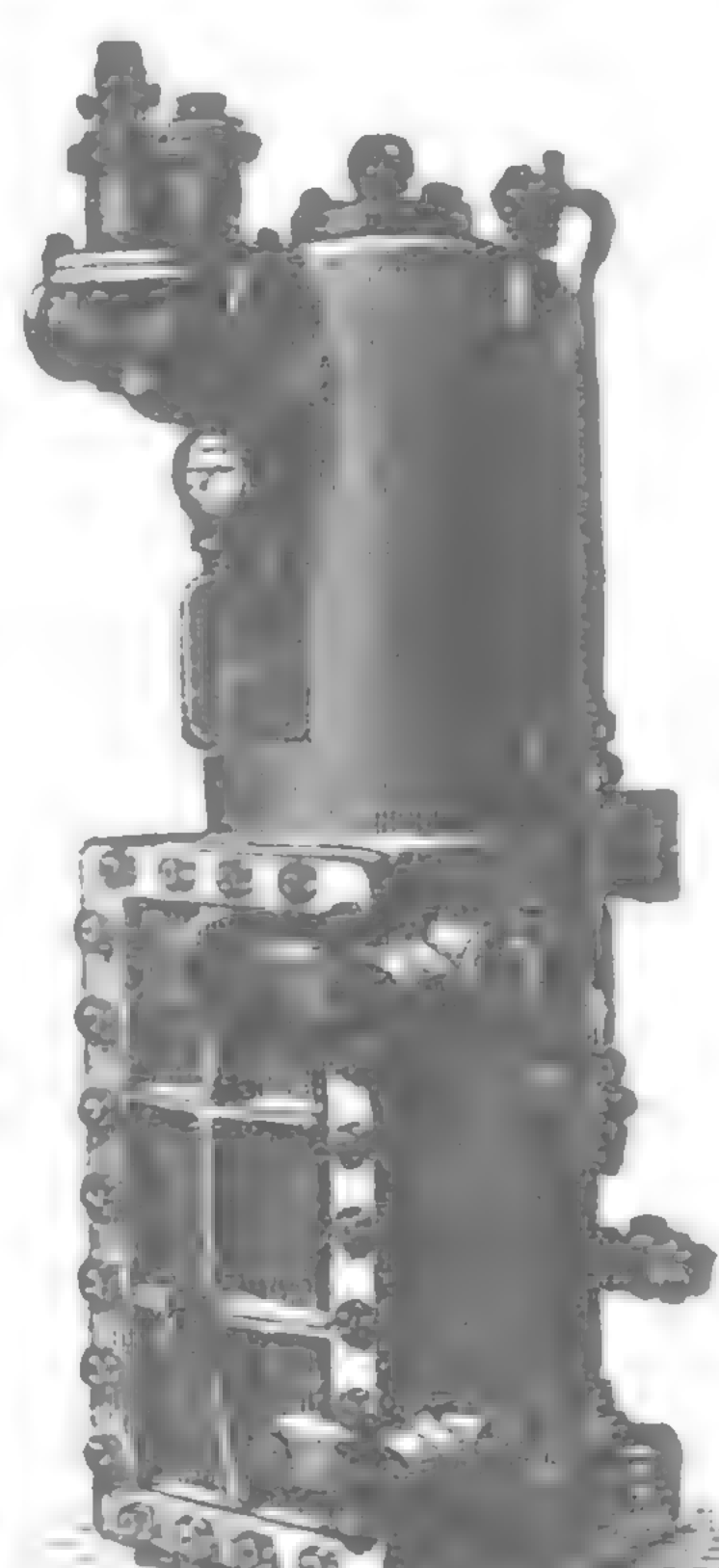
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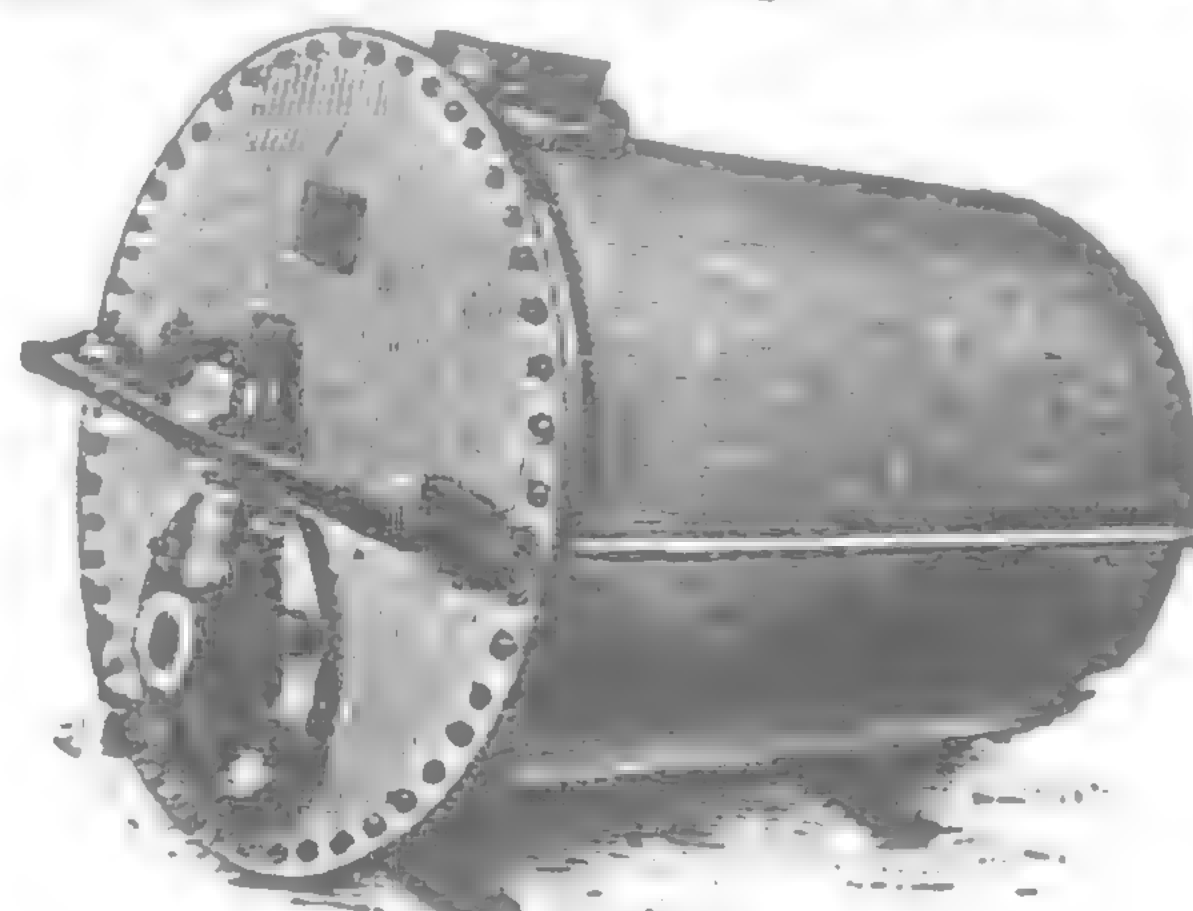


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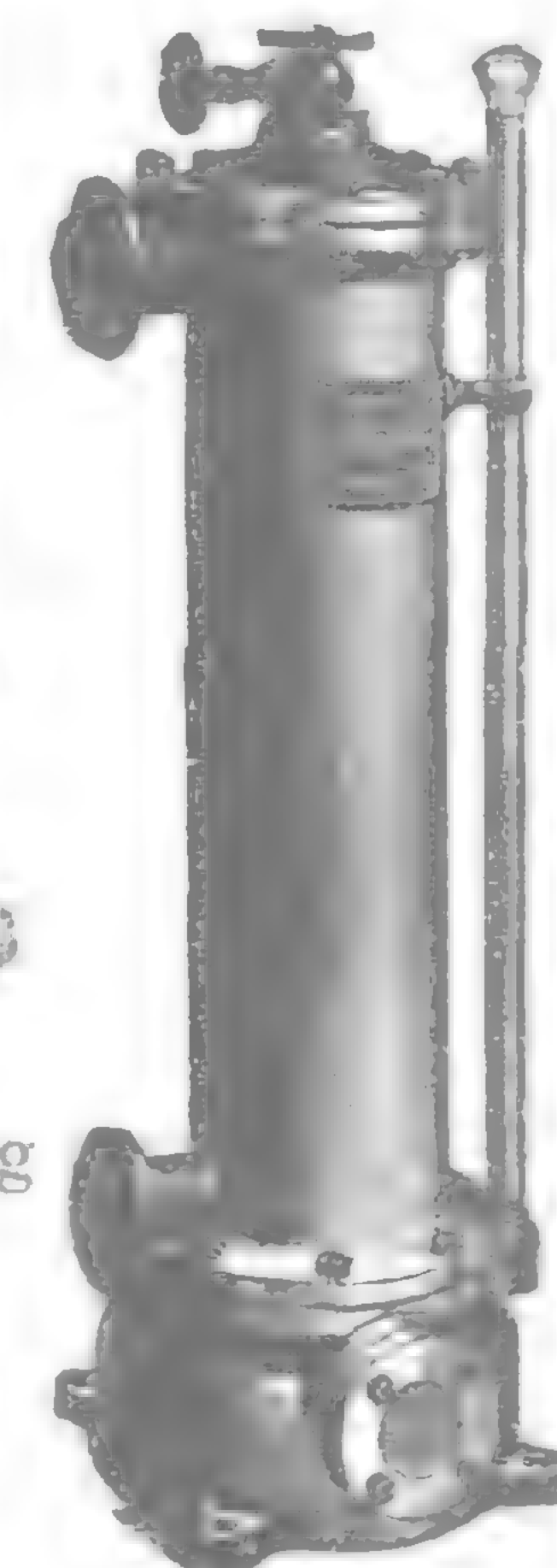
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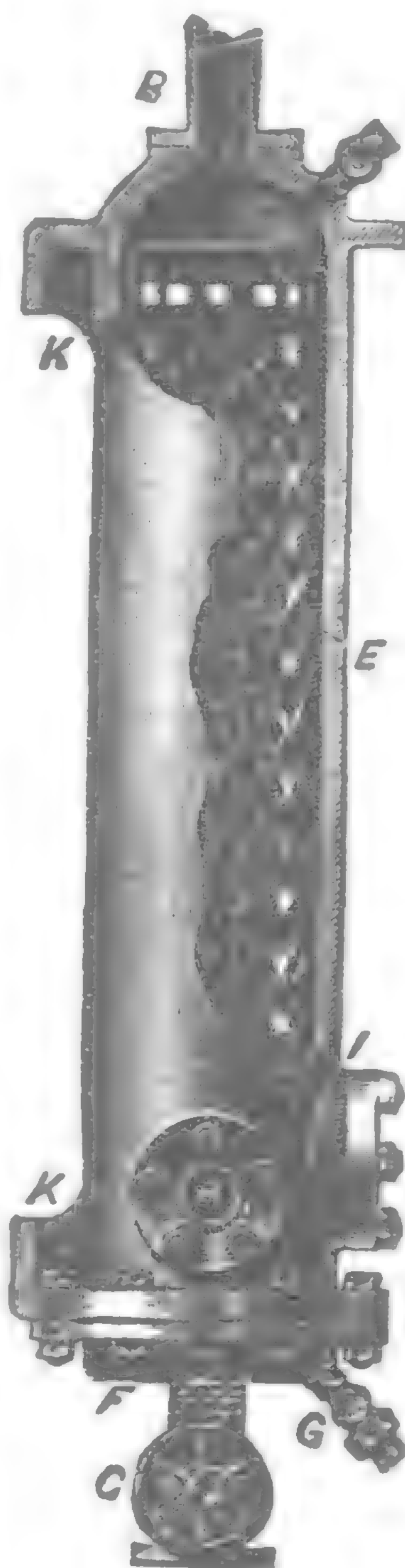
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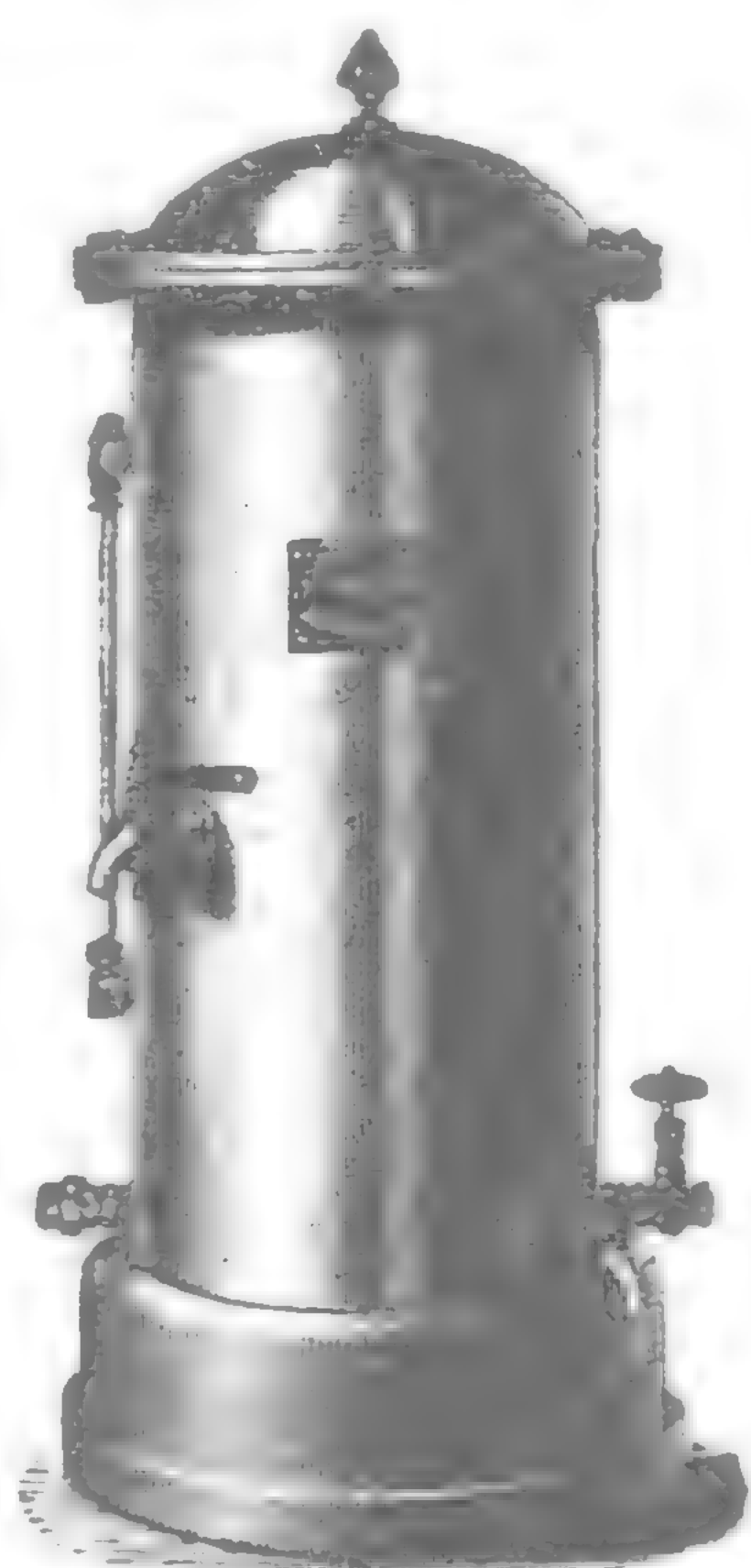
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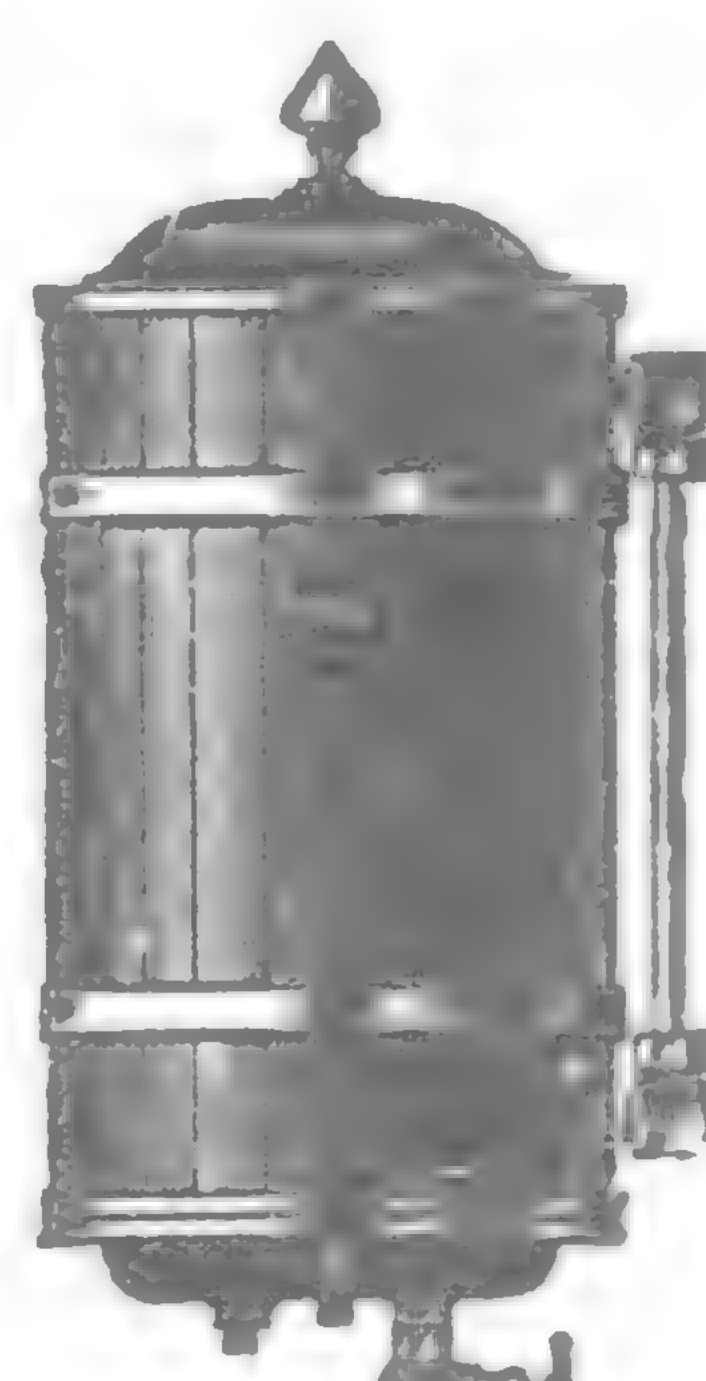
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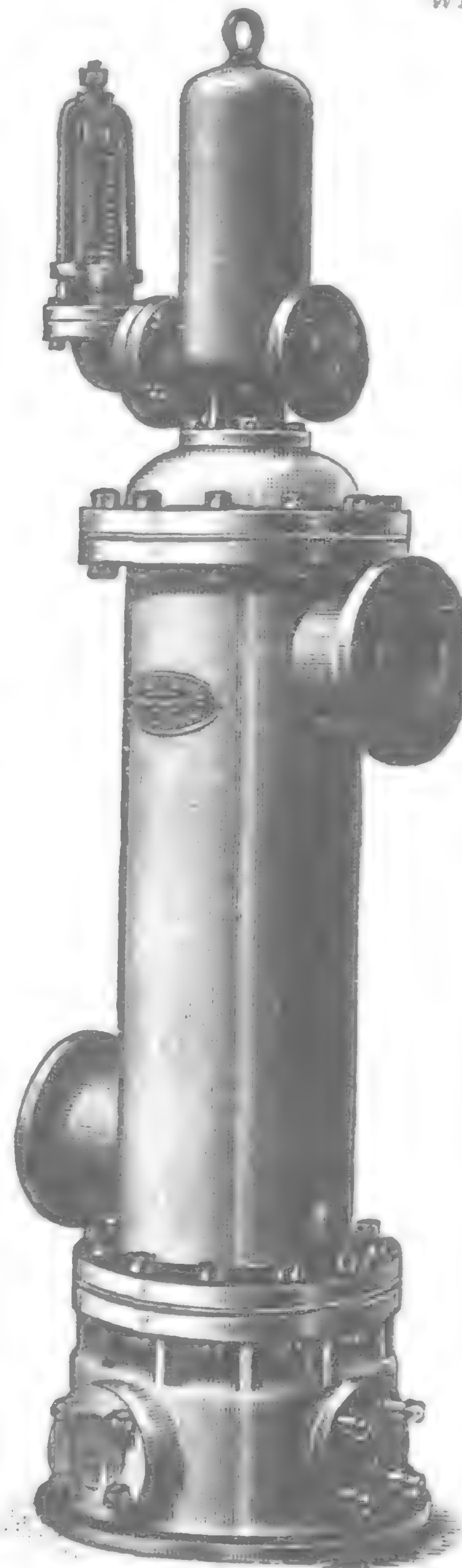
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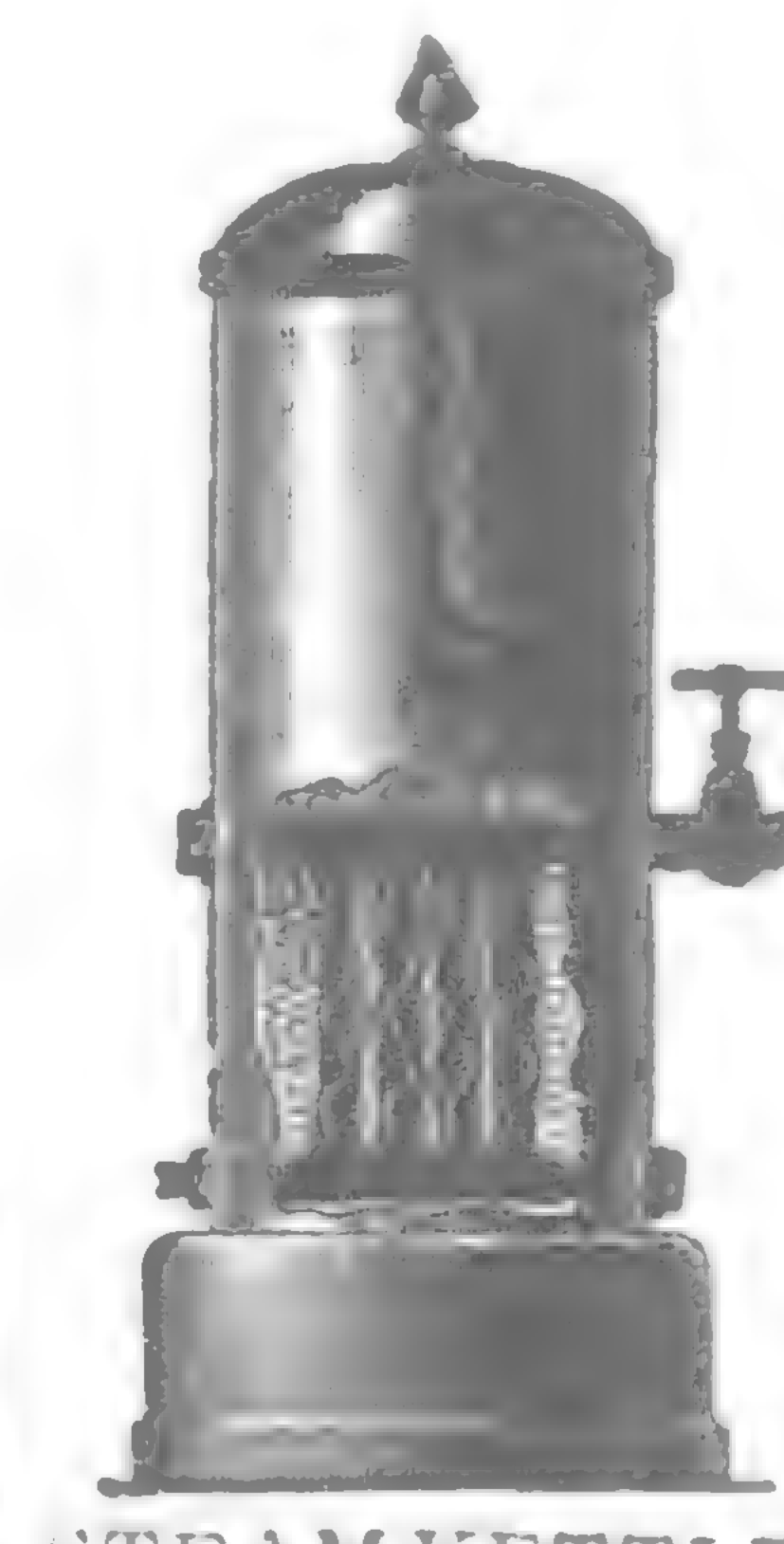
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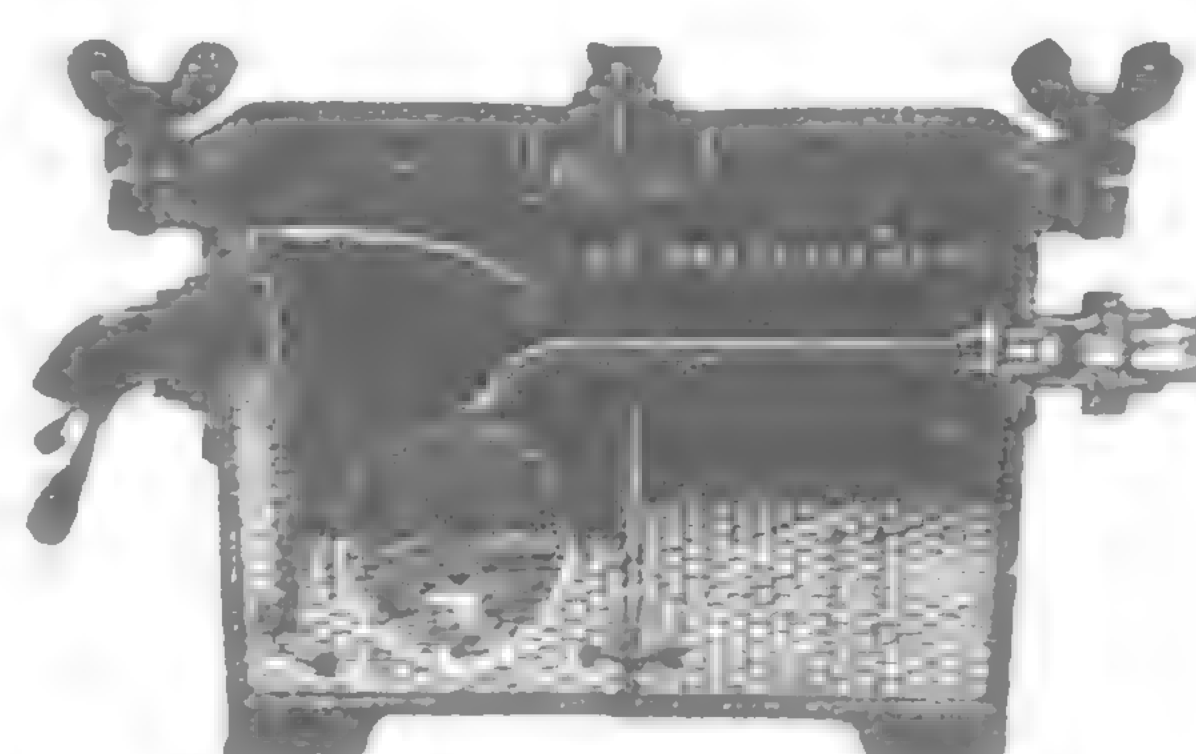
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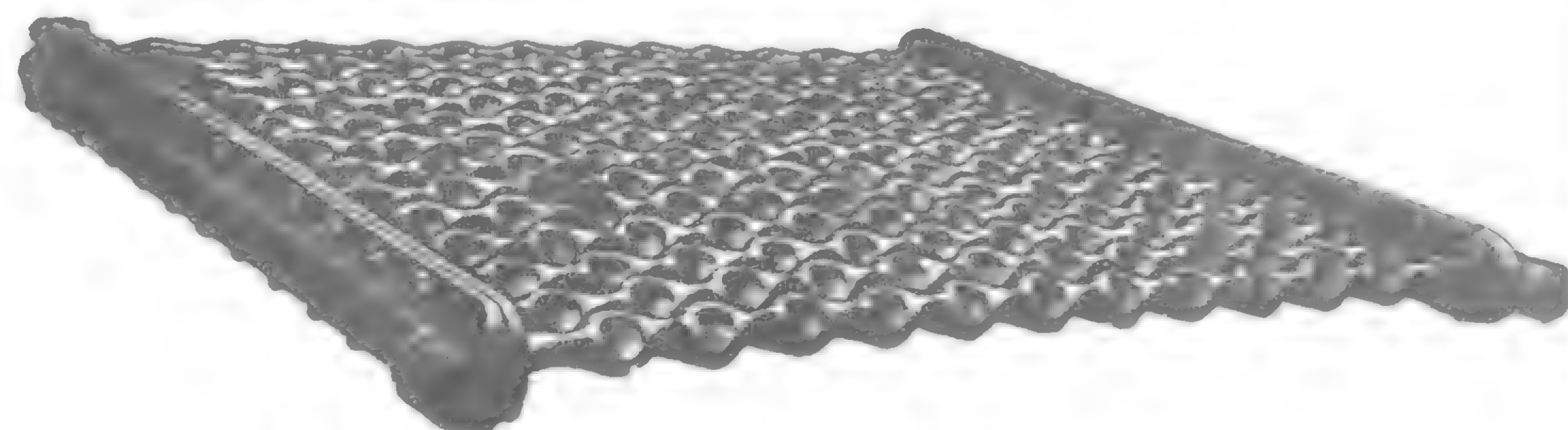
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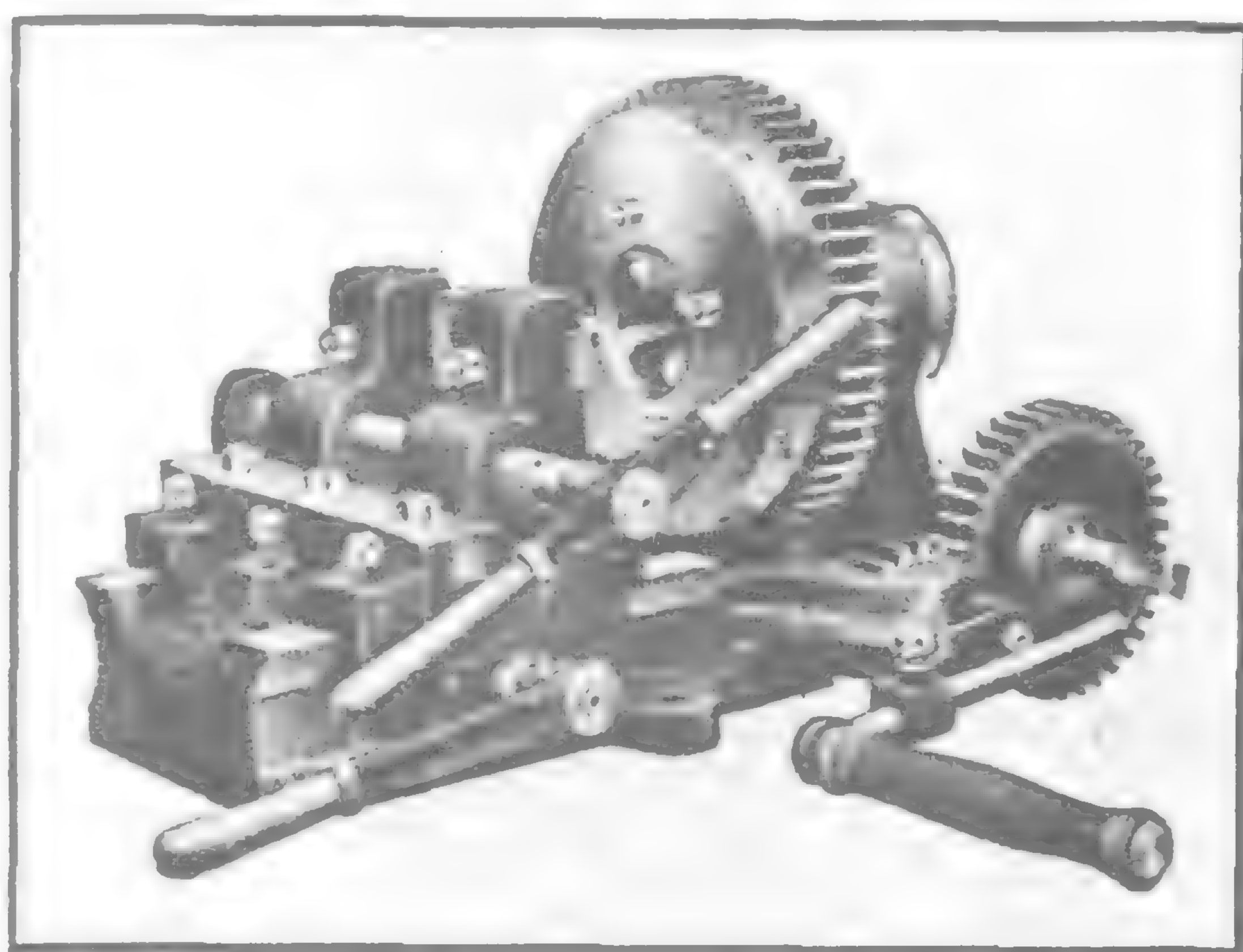
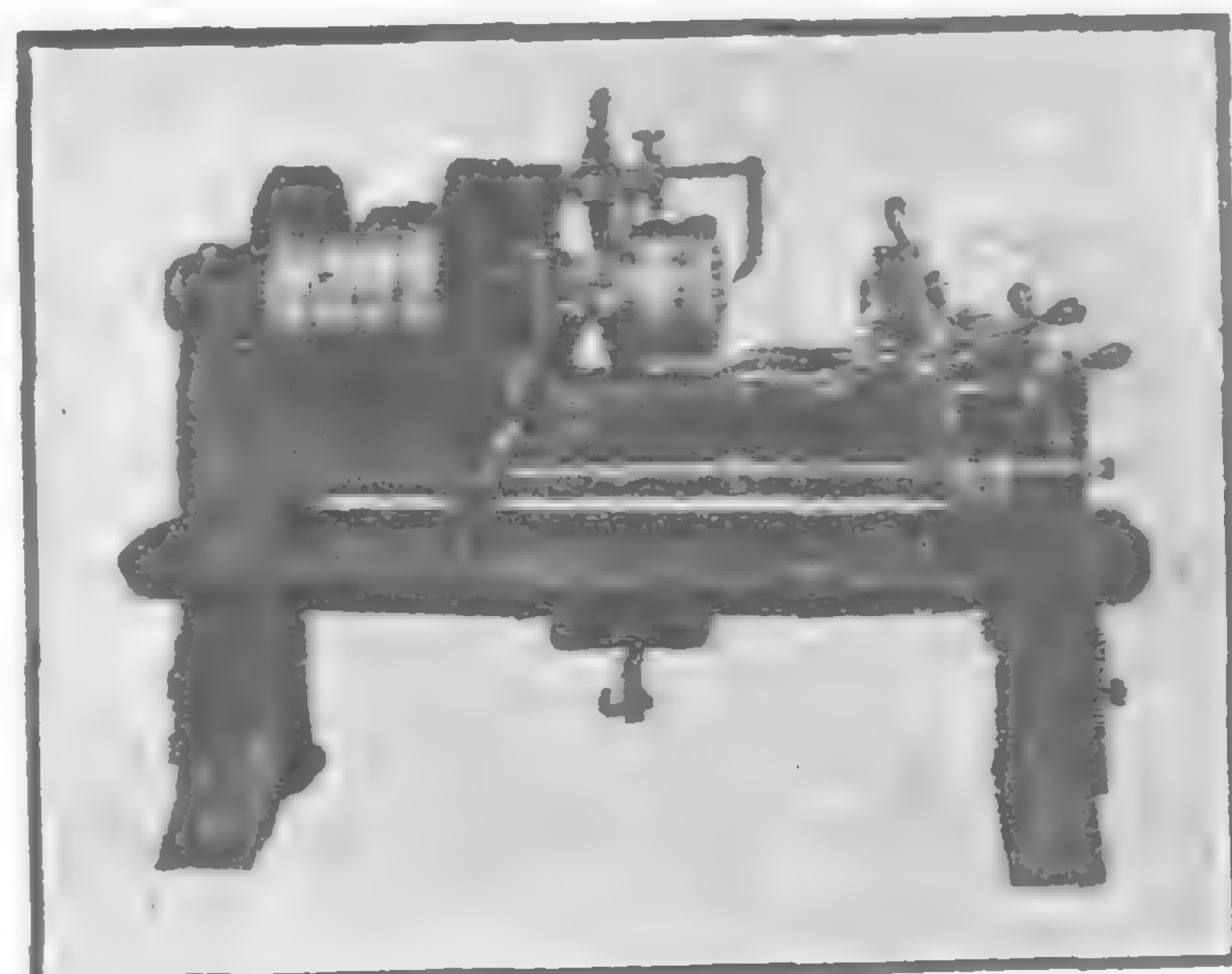
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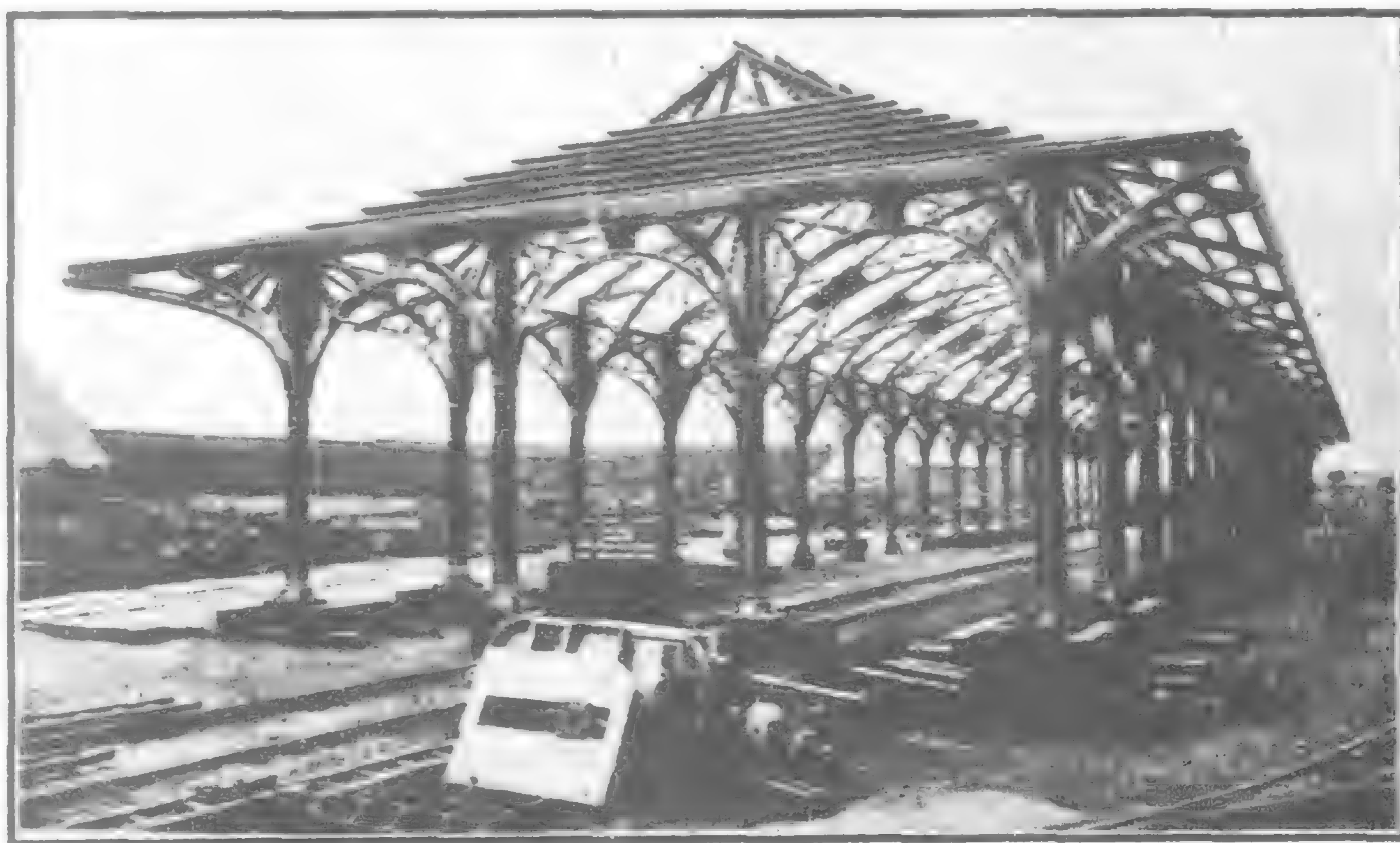
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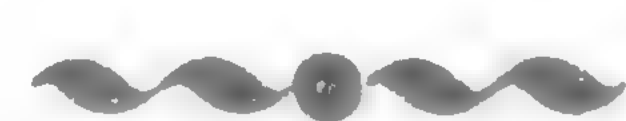
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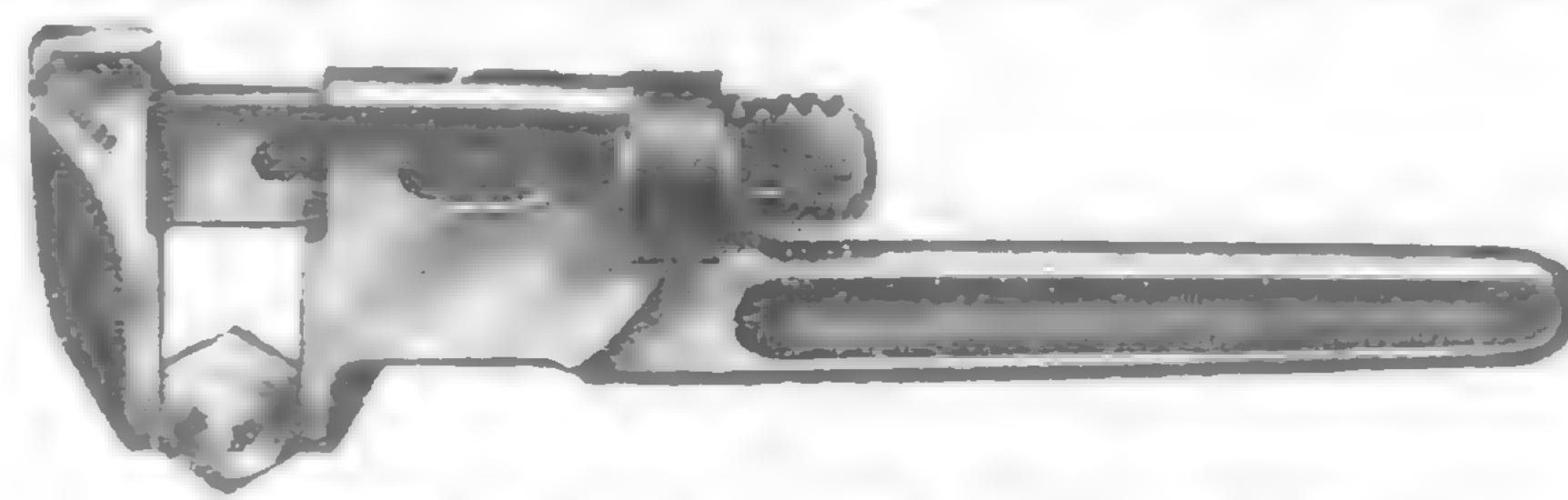
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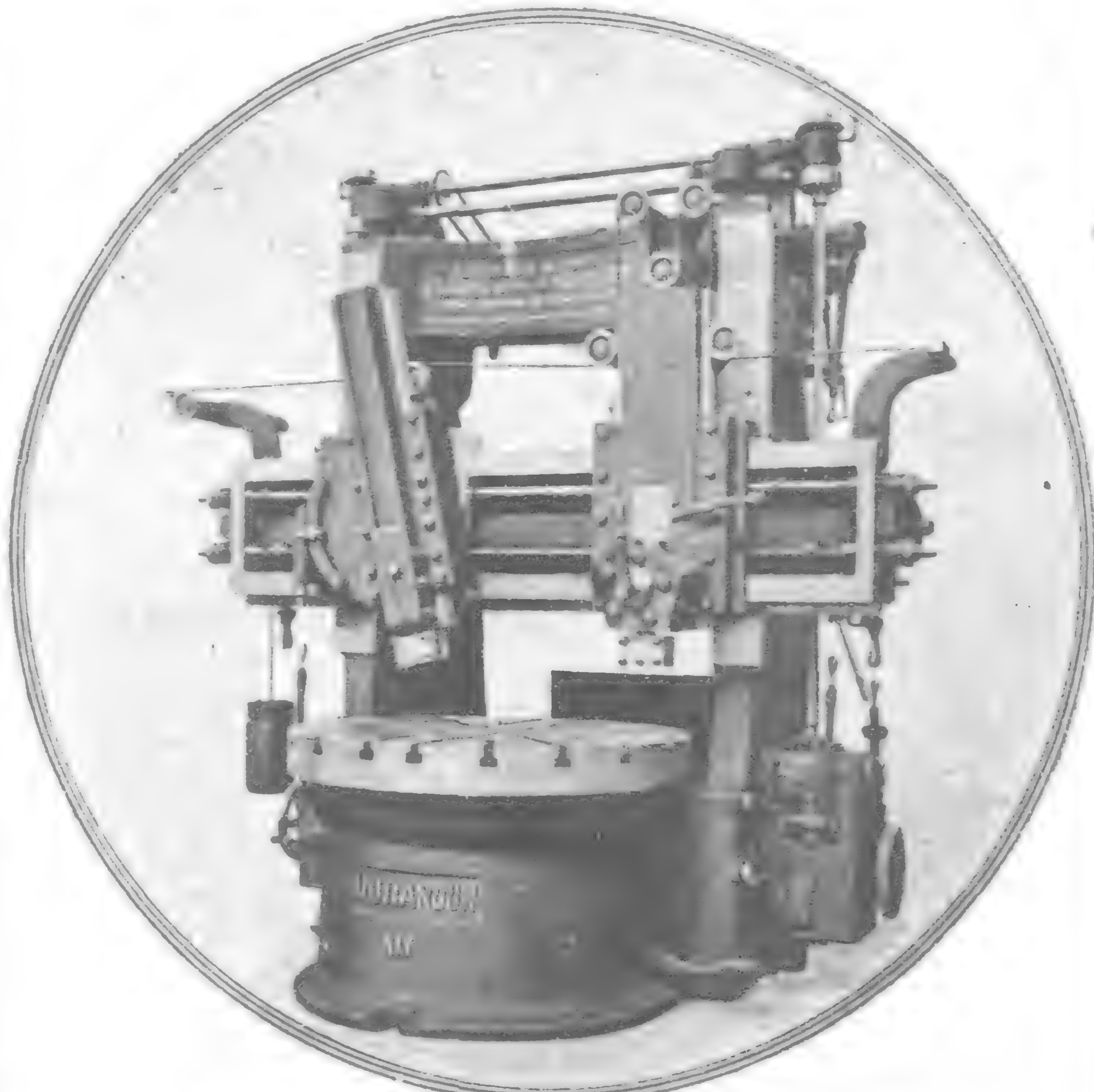
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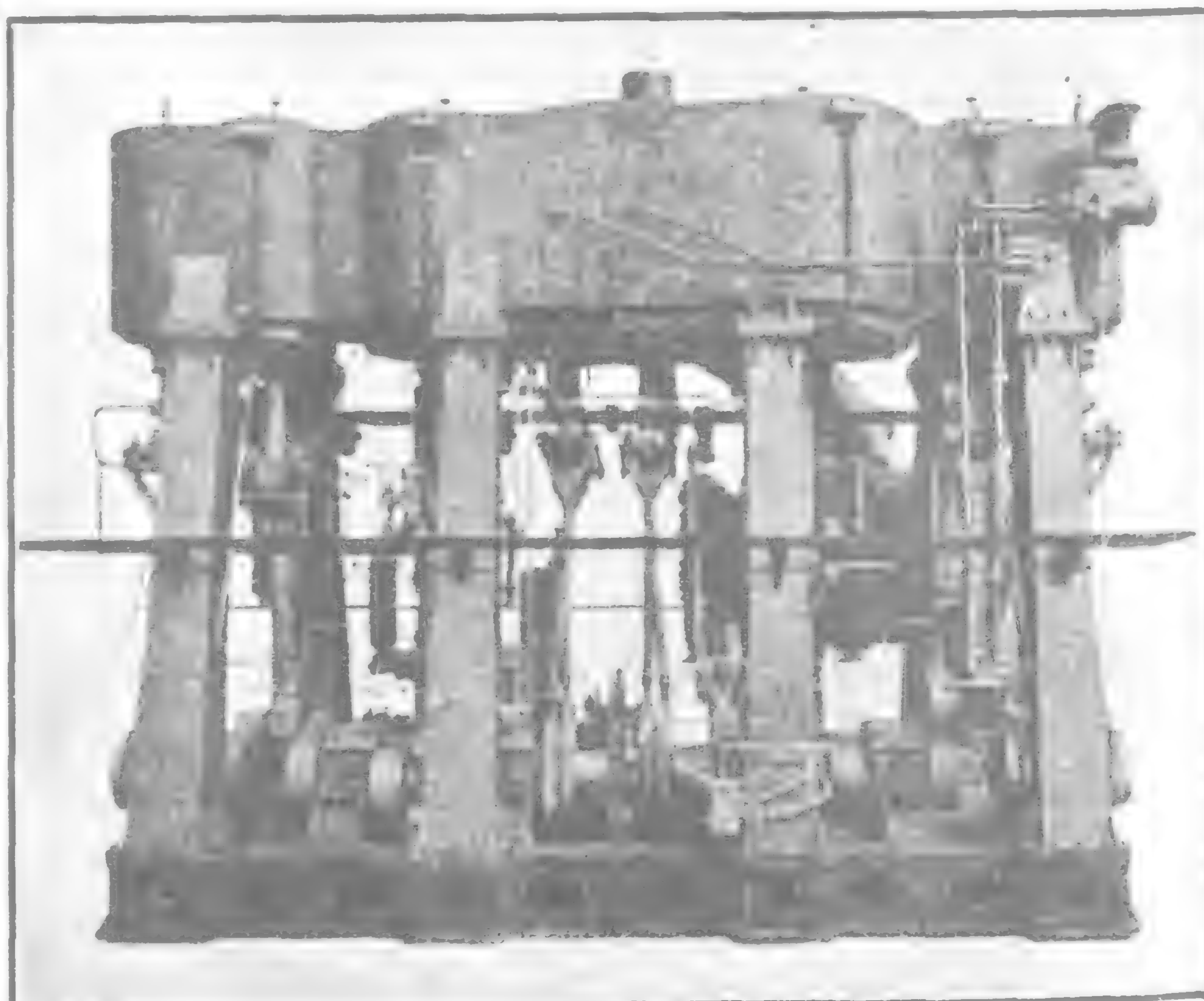
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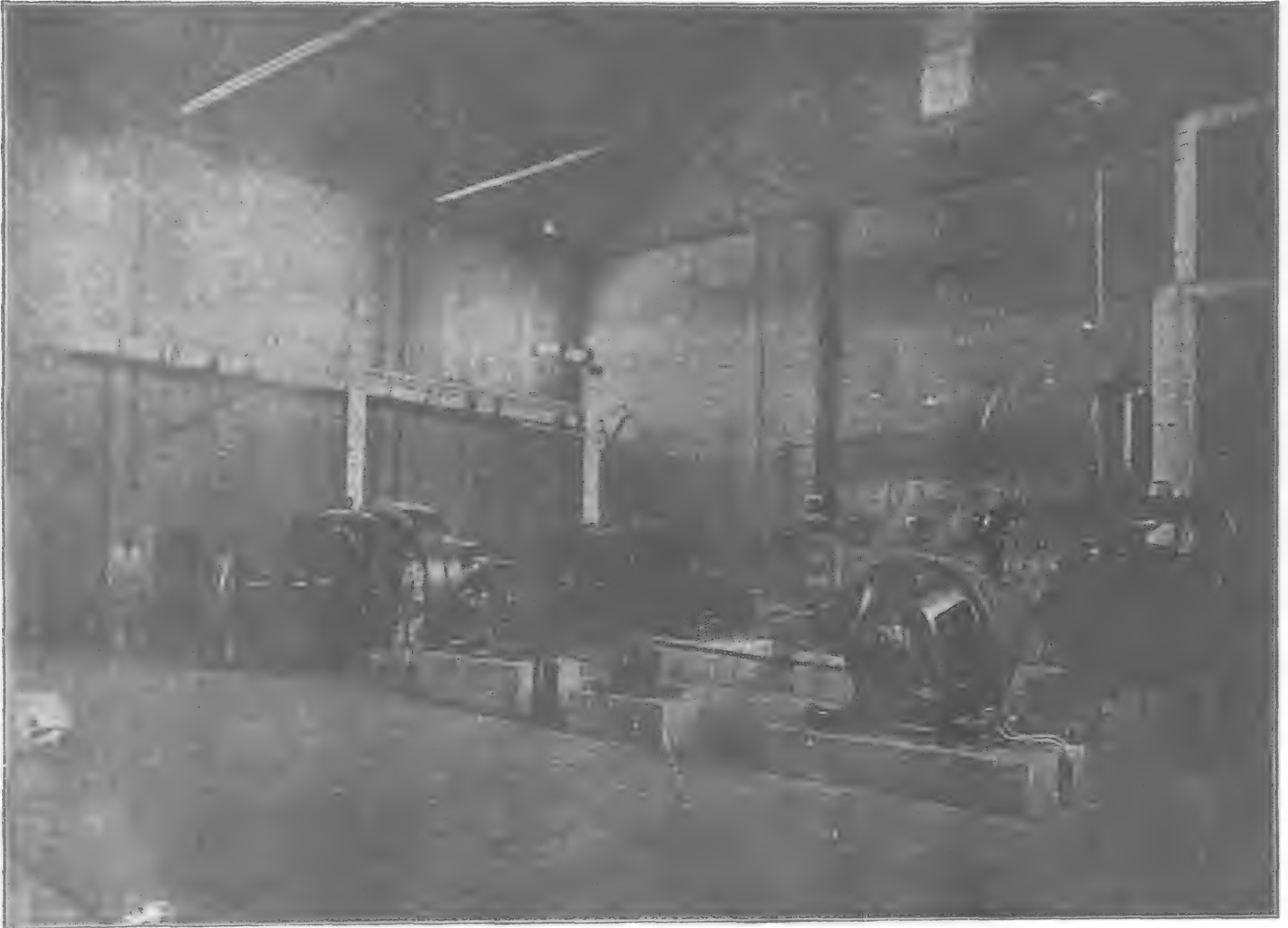


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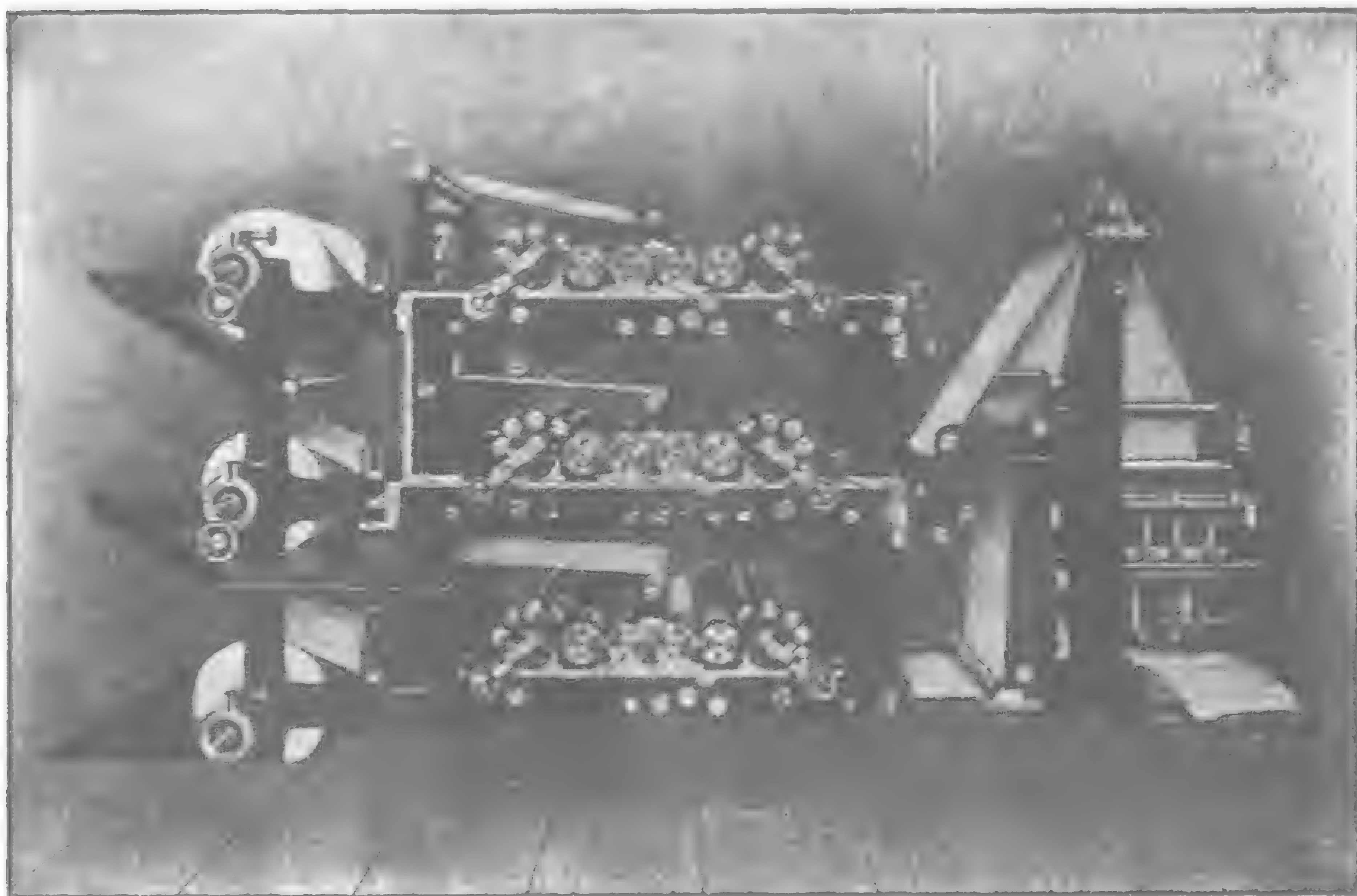
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Tenders are invited for the supply of the following freight cars:—

75-30-ton high sided Cars.

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Conditions of Contract, drawings, etc., can be obtained on payment of \$5 at the office of the Director General, Han-Yueh-Chuan Railway Administration, Hankow, or on payment of an equivalent fee at the offices of the Railway's Consulting Engineers or Representatives in London, Paris, Berlin and New York.

No tenders will be received after 6 p.m. on March 31st 1916, when they will be opened in the presence of the Tenderers or their Representatives.

BY ORDER.

Hankow, January 15th, 1916.

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HONGKONG

Telegraphic Address: Manifesto Hongkong
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Founders, Forge Masters, Electricians.

All classes of CONSTRUCTIONAL and GENERAL ENGINEERING WORK undertaken, also LOCOMOTIVES, RAILWAY ROLLING STOCK and PLANT, BRIDGES, etc.

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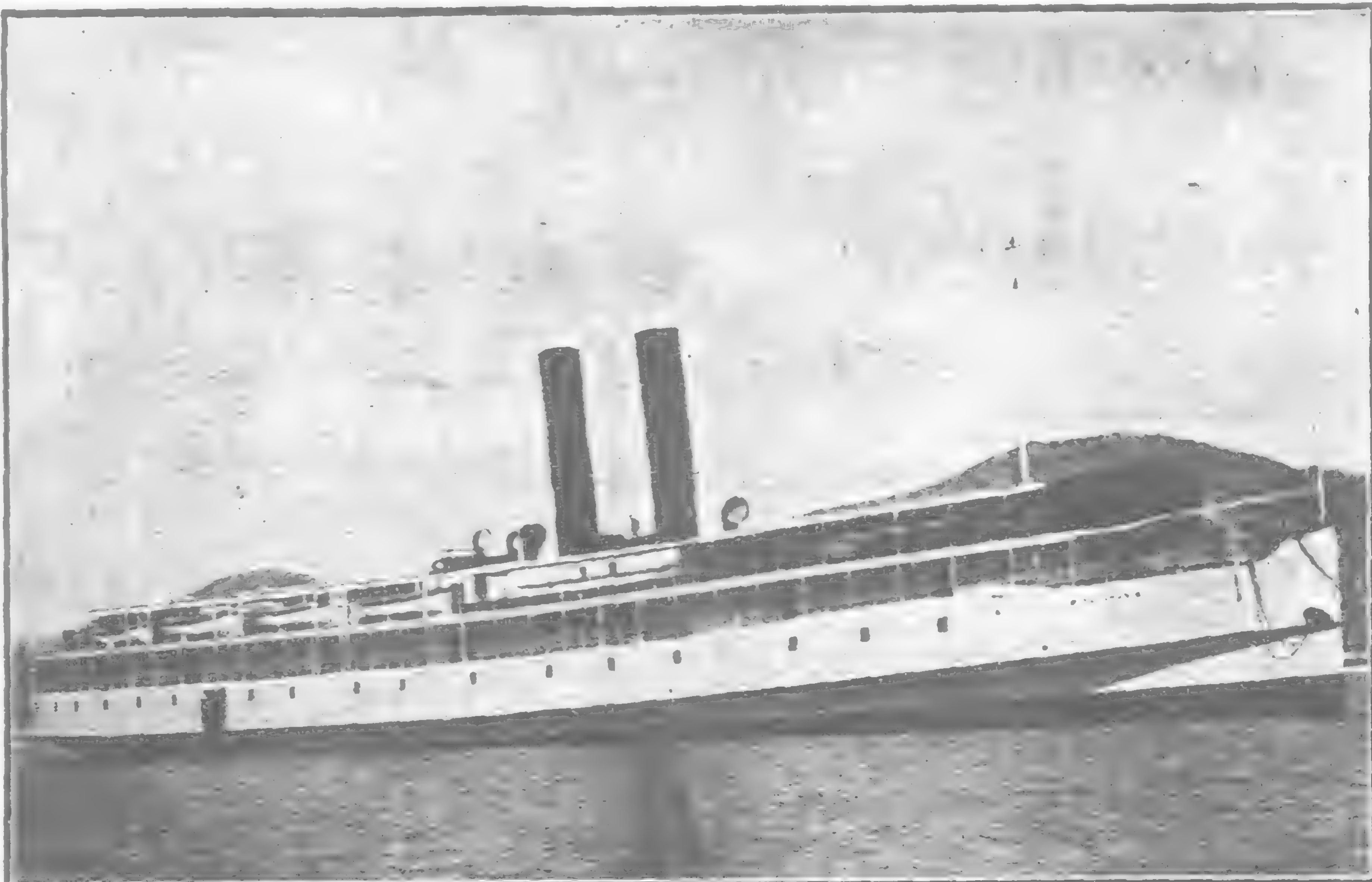
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LAND and MARINE BOILERS of all sizes and classes. GALVANIZING by the Electrical process.

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FORGINGS in IRON and STEEL for SHIPS, ENGINES, and LAND WORK, large and small.

We make a specialty of



TWIN SCREW RIVER STEAMER "TAI SHAN"

Length 290 ft. Breadth 53 ft. Depth 12 ft., fitted with Compound Surface Condensing Engines for a speed of 14.7 knots.

Built and engined complete by the HONGKONG & WHAMPOA DOCK CO., LTD. for the HONGKONG, CANTON & MACAO STEAMBOAT CO. LTD.

HIGH SPEED MOTOR BOATS for PASSENGER and CARGO Traffic.

ALL CLASSES of COCKS, VALVES and FITTINGS in IRON and BRASS supplied.

BOLTS, NUTS and RIVETS MANUFACTURED at SHORT NOTICE.

FINISHED NUTS in BRASS and IRON.

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The Company possesses SIX GRANITE DOCKS and TWO PATENT SLIPWAYS and these are equipped for EXPEDITIOUS WORK. Our plant is of the most modern type throughout.

Ship owners and Captains are assured that DOCKING and REPAIRS are carried out PROMPTLY and at MODERATE CHARGES.

The Dimensions of Docks and Slips are as follows:—

Name of Dock or Slip	Length on Keel Blocks	Entrance Breadth	Depth Over Sill at Ordinary Spring Tides	Rise of Tide	
				Springs	Neaps
KOWLOON					
No. 1 Dock, Kowloon . . .	700	{ 86 ft. top 70 ft. bottom }	30'	7' 6"	3
No. 2 Dock, Kowloon . . .	371	74'	18' 6"	7' 6"	—
No. 3 Dock, Kowloon . . .	264	49' 3"	14'	7' 6"	—
Patent Slip, No. 1, Kowloon .	240	60'	14'	7' 6"	—
Patent Slip, No. 2, Kowloon .	220	60'	12'	7' 6"	—
TAI-KOK-TSUI					
Cosmopolitan Dock	466	85' 6"	20'	7' 6"	—
ABERDEEN					
Hope Dock	430	84'	23'	7' 6"	—
Lamont Dock	333	64'	16'	7' 6"	—

Please Address Enquiries to the Chief Manager, R. M. DYER, B. Sc., M.I.N.A., Kowloon Dock, Hongkong.

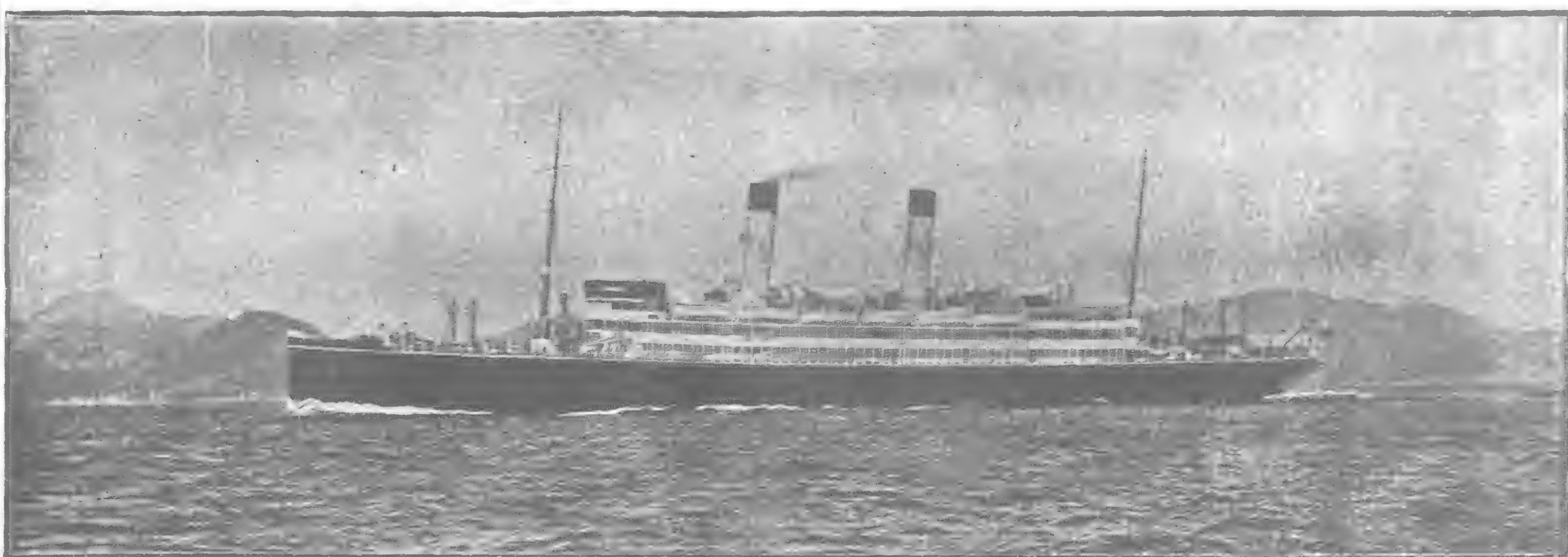
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DOCK No. 1.		DOCK No. 2.		DOCK No. 3.	
Extreme Length	528 Ft.	Extreme Length	371 Ft.	Extreme Length	722 Ft.
Length on Blocks	513 "	Length on Blocks	360 "	Length on Blocks	714 "
Width of Entrance on top . .	88 "	Width of Entrance on top . .	66 "	Width of Entrance, top . . .	99 1/2 "
" " " " Bottom	77 "	" " " " Bottom	53 "	" " " " Bottom	88 1/2 "
Water on Blocks at Spring Tide	28 1/2 "	Water on Blocks at Spring Tide	22 "	Water on Blocks at Spring Tide	34 1/2 "

THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST.

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LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND

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The Model was exhibited at St. Louis Exposition and awarded the Gold Medal in 1904

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Low Pressure Hot Water and Steam Heating Installations

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The Dock charges are the most moderate in the Far East

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Names	Length on Blocks	High Water	
		Breadth of Entrance	Depth of water on Sill
Cosmopolitan Dock	532 feet	77 feet	24 feet
International Dock	528 "	77 "	23 "
New Dock . . .	450 "	74 "	21 "
Old Dock . . .	399 "	53 "	16 "
Tunkadee Dock	350 "	67 "	15 "

Berths for Building Steamers of any Size

CORRESPONDENCE INVITED

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PROSPECTING AND DEVELOPMENT

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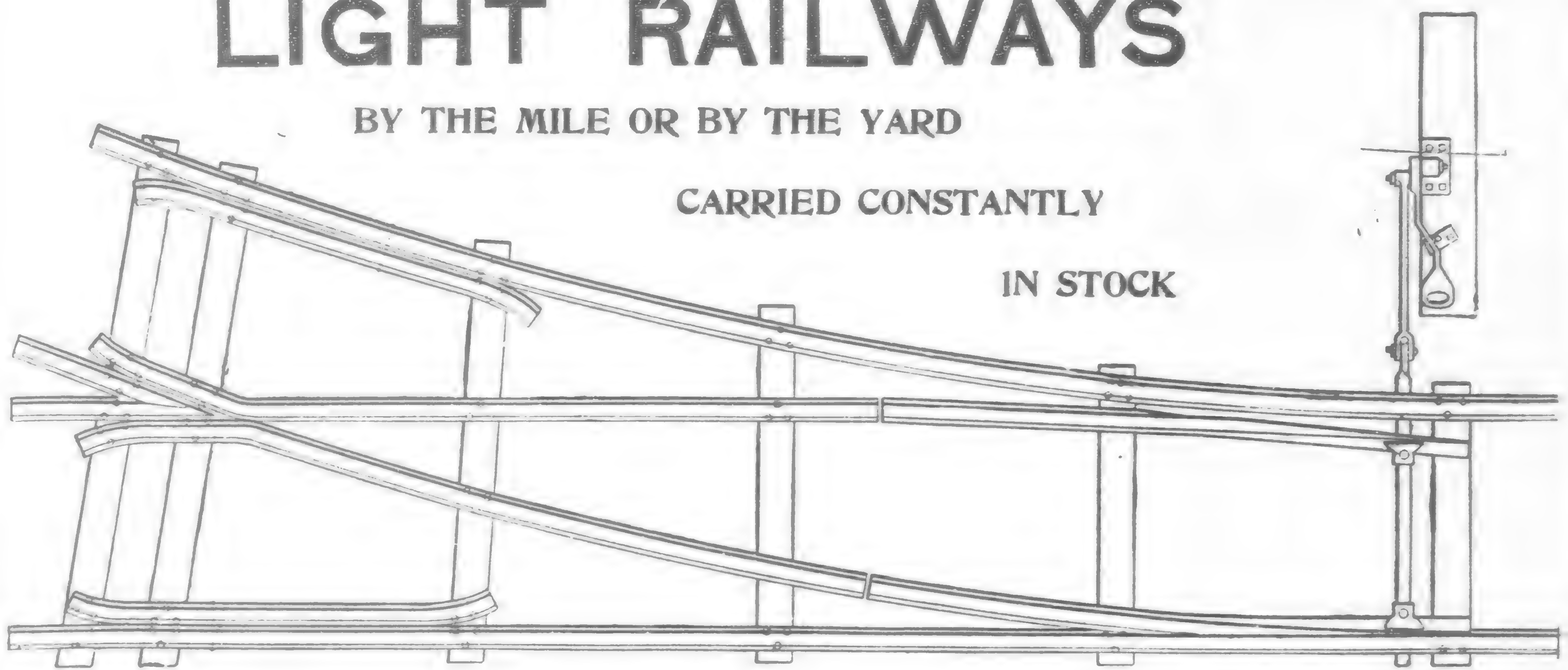
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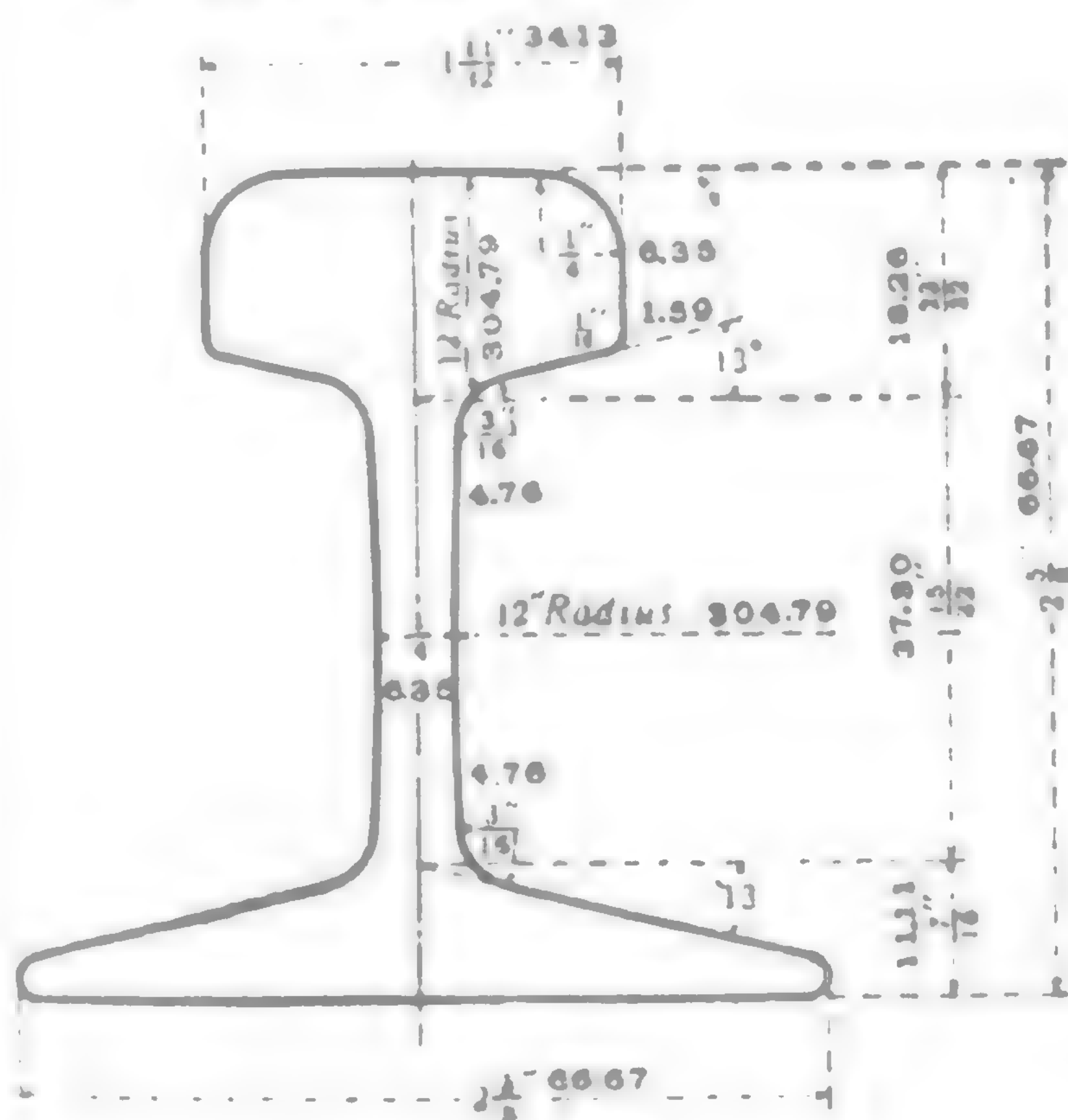
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31.43 gross tons per mile of single track.
19.84 tonnes per kilometer of single track.

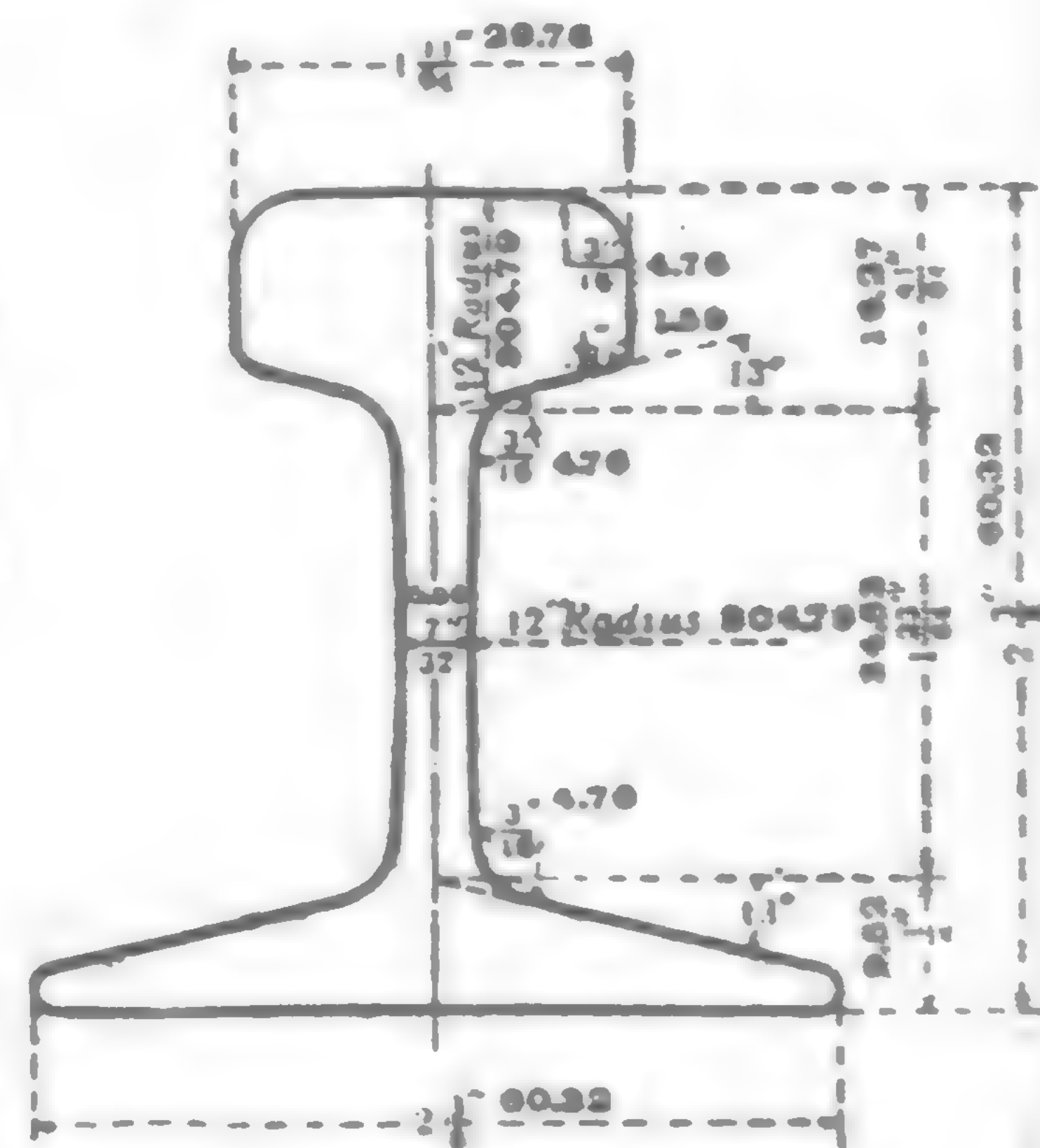
168 ft. of single track per gross ton.
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16 lbs. per yard.
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25.14 gross tons of single track per mile.
15.88 tonnes per kilometer of single track.
210 ft. of single track per gross ton.
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THE latest development of the Janney type of M. C. B. Coupling originally introduced and promoted by this company. This coupler has all the simplicity of the early type of the Janney coupler, and also has the up-to-date features of a "Lock-to-the-Lock," "Lock-Set," and a "Knuckle-Opener," and complies fully with all the requirements and recommendations of the M.C.B. Association of the U.S.A.

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Lock-Set—Lock setting is accomplished by the locking block resting on a seat on the inside wall of the coupler head when raised to the uncoupling position, from which seat it is dislodged on the closing movement of the knuckle in the act of coupling.

Knuckle-Opener—The knuckle-opener pushes the knuckle open to the fullest range of movement from a fully closed position, or from any partially open position, and its path of movement is such as to insure easy and complete opening of the knuckle.

The lock has an extra large bearing surface in contact with the knuckle in the coupler, being approximately five square inches. No portion of the locking block extends beyond the bottom wall of the coupler.

This coupler has the desirable feature of easy accessibility of parts, thus facilitating the making of repairs.

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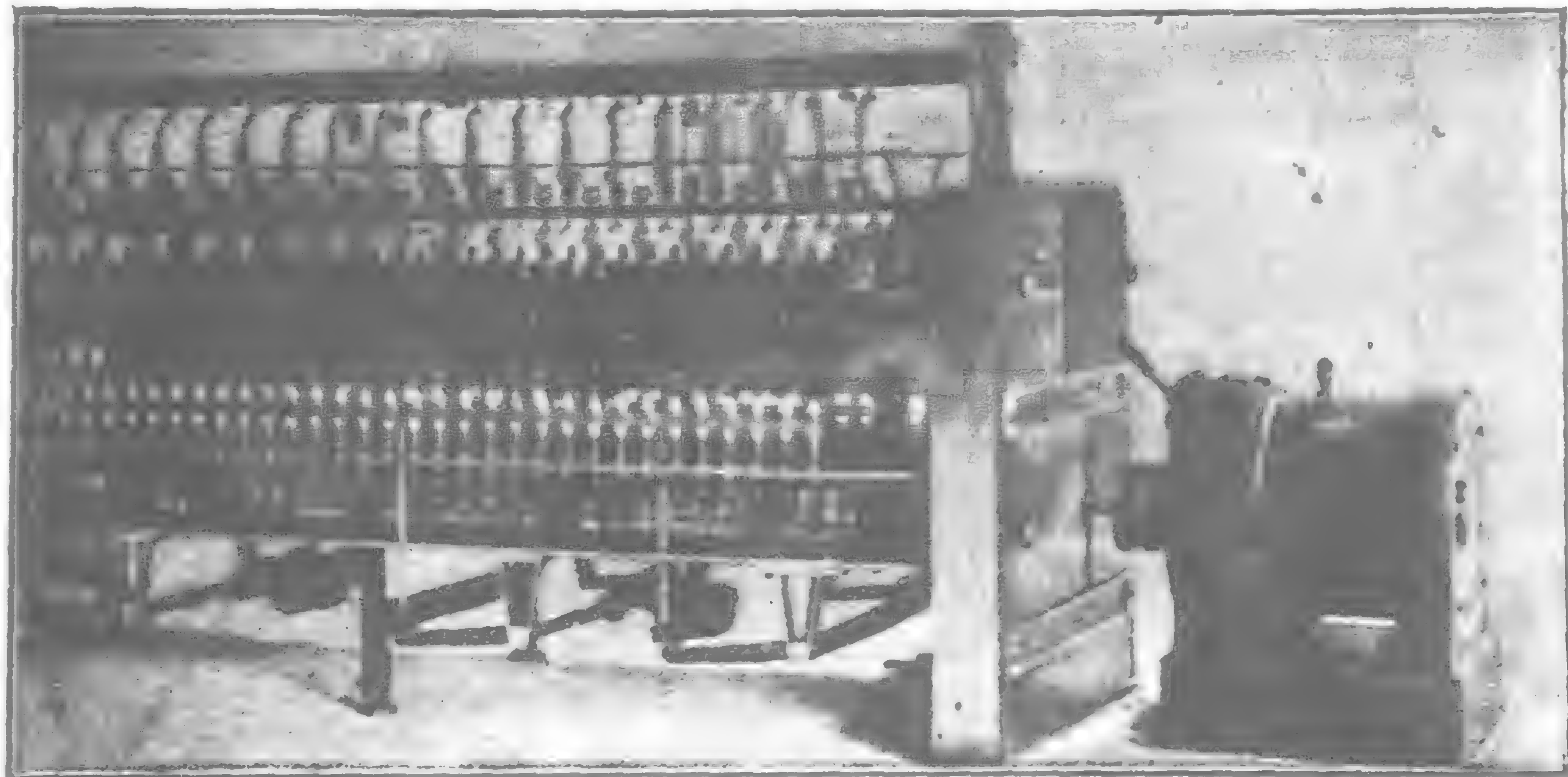
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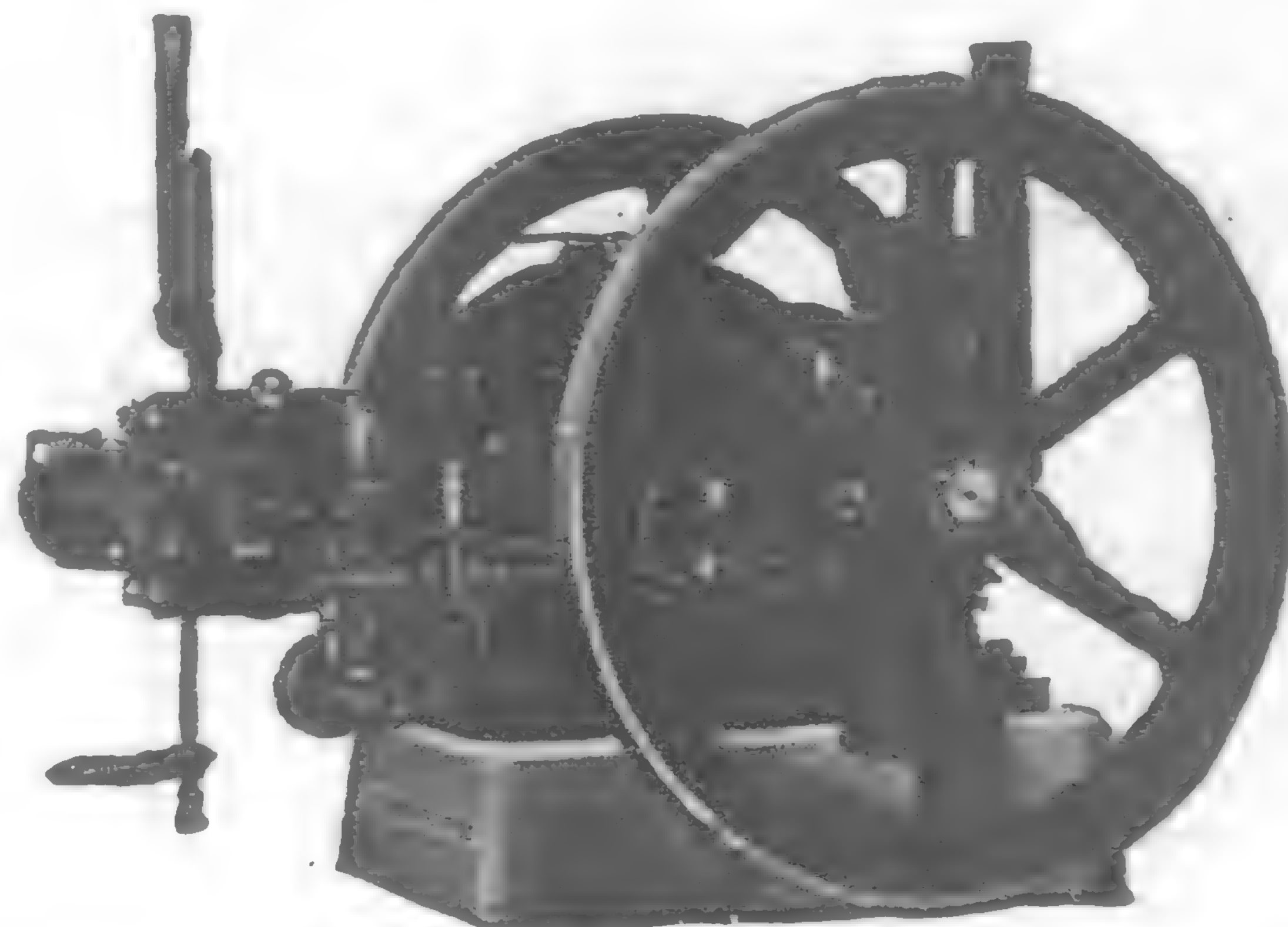
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Reliable Power at Low Fuel Cost



is available with the Fairbanks-Morse Type "Y" Semi-Diesel Oil Engine, because its *exclusive* features assure economical operation on low-priced oils. Its simplicity and dependability cut operating cost to a minimum.

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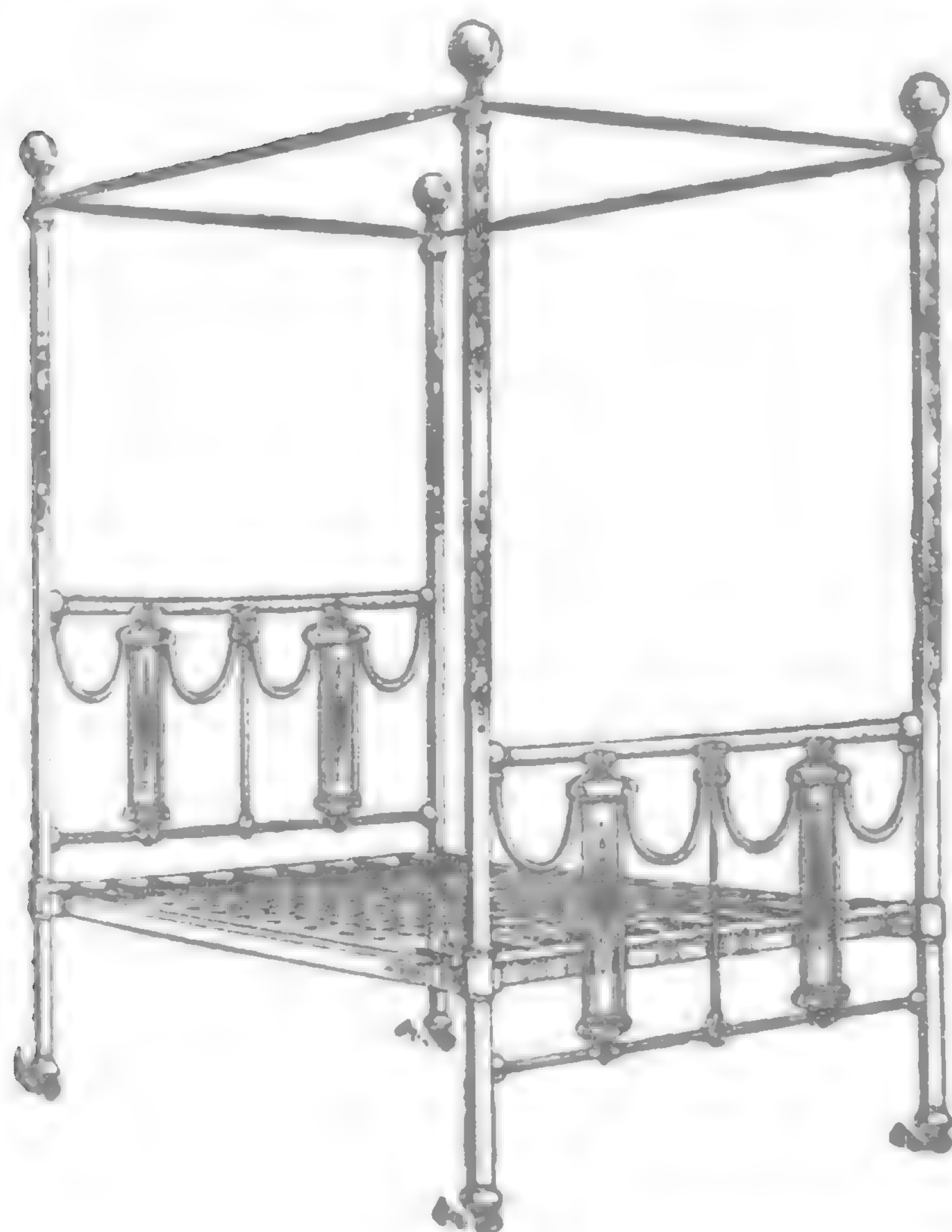
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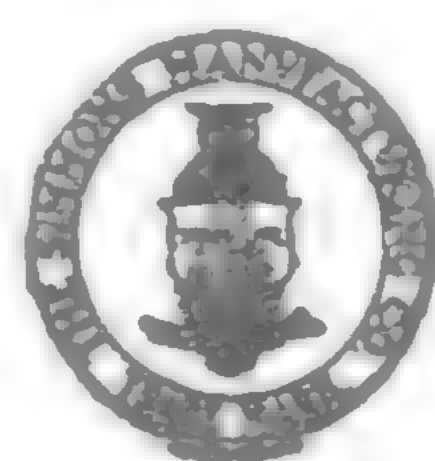
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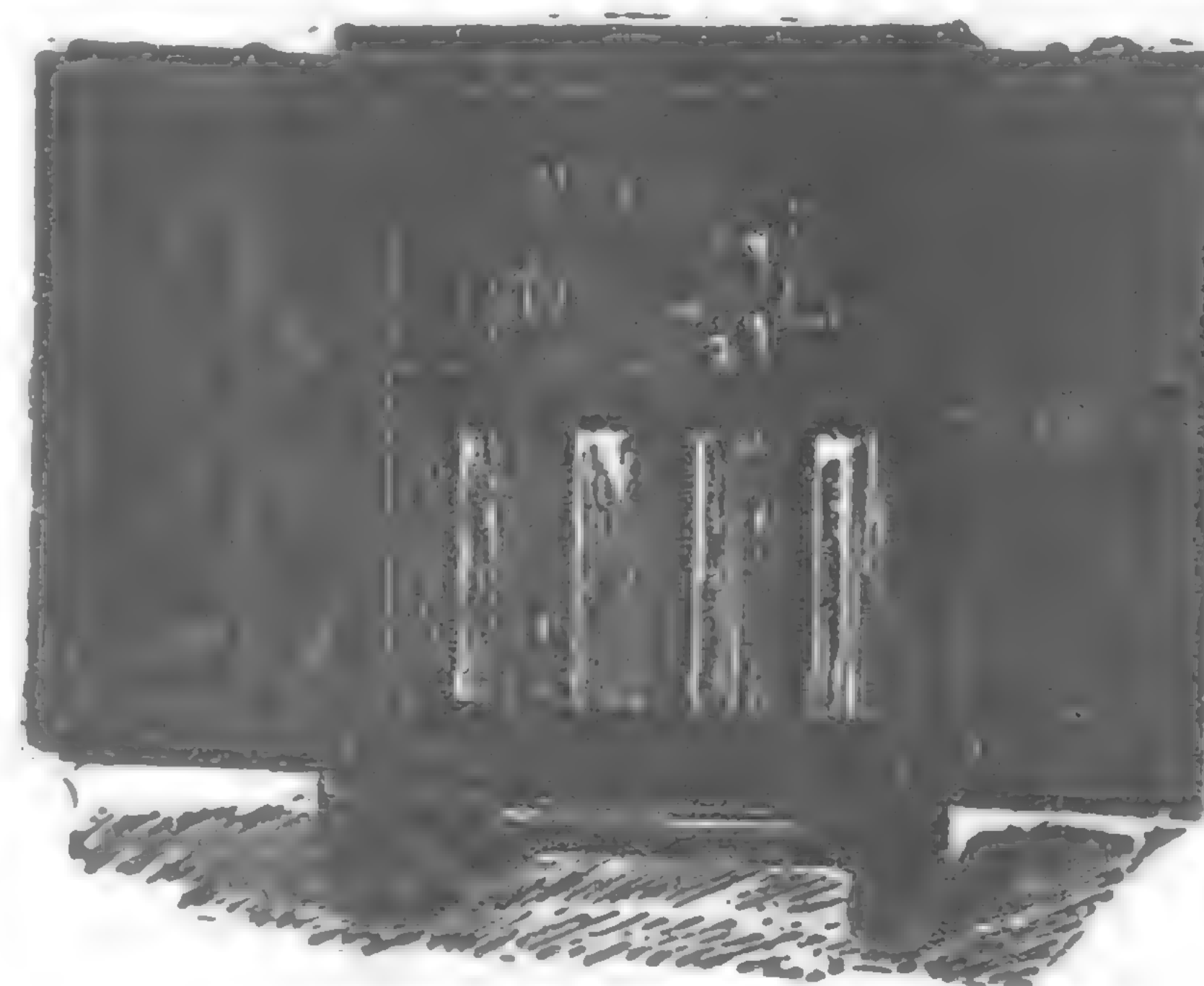


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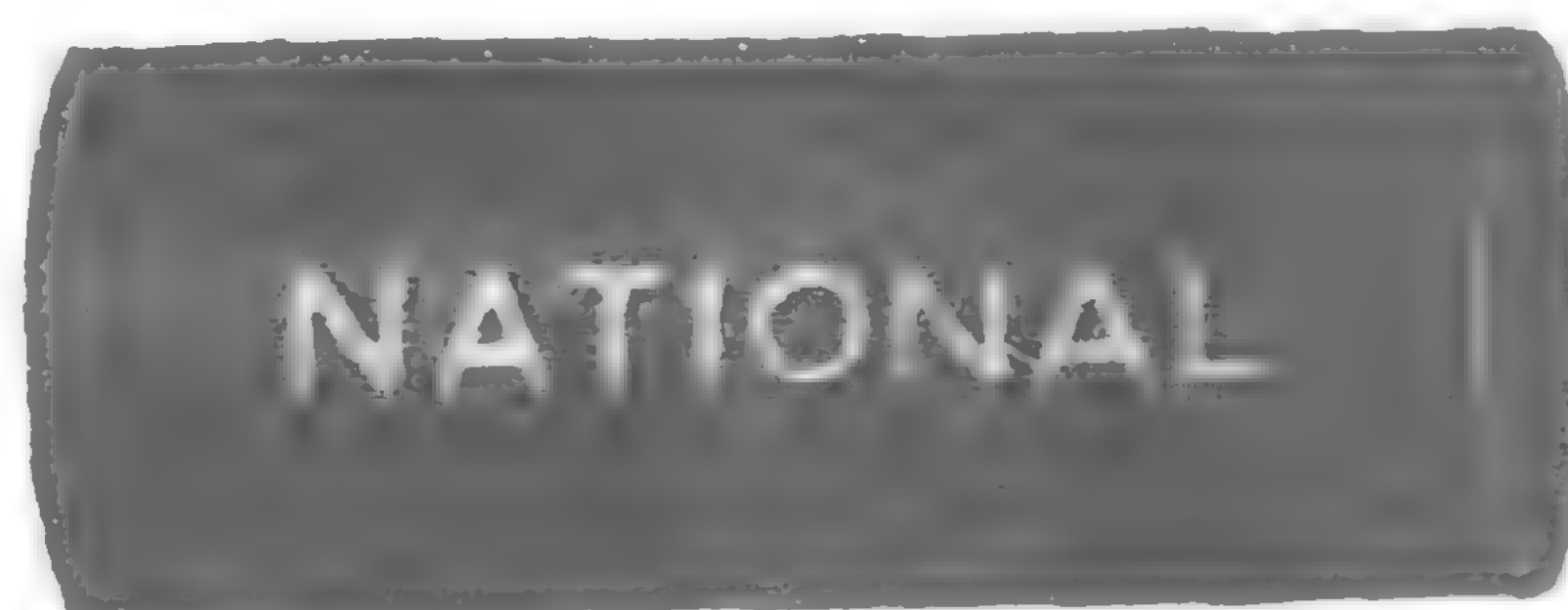
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The "Safety-First" Union

Five Special Advantages of the "KEWANEE" Union

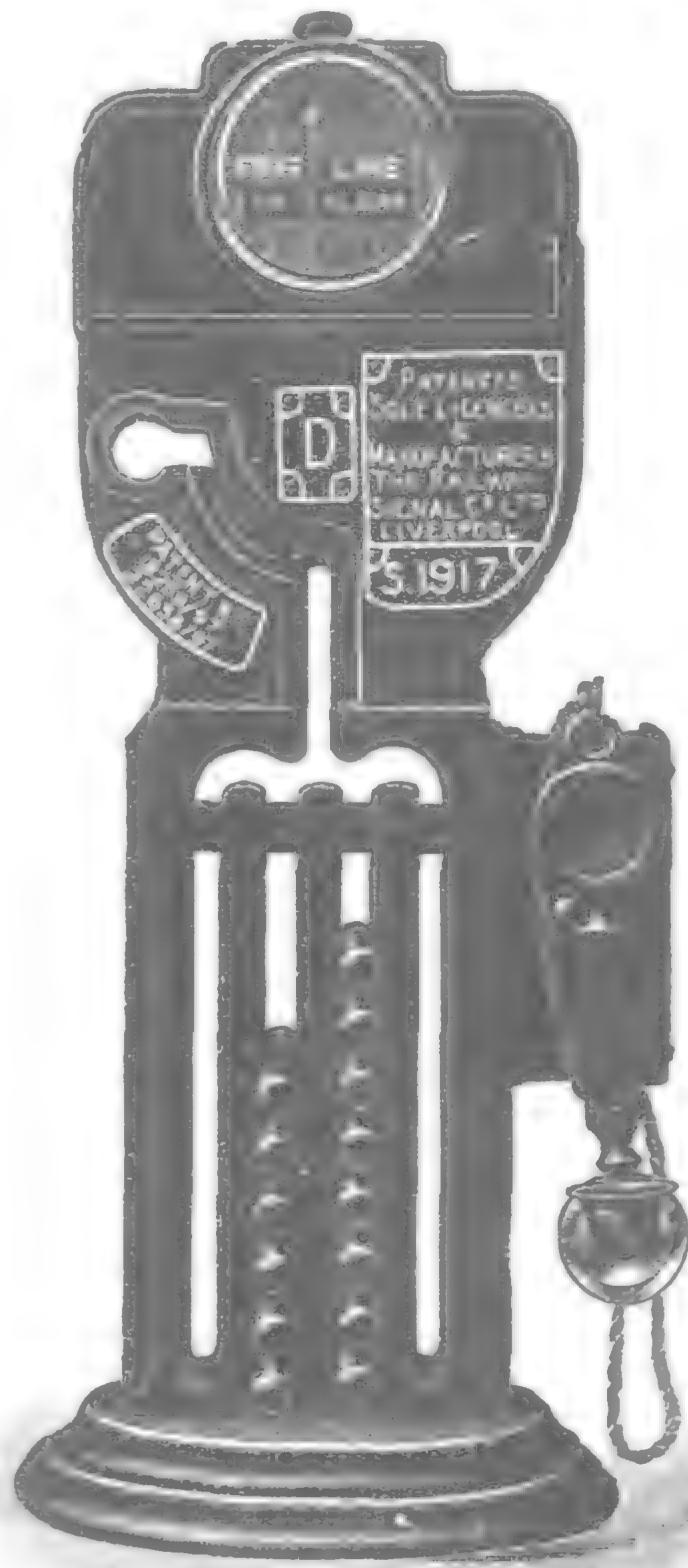
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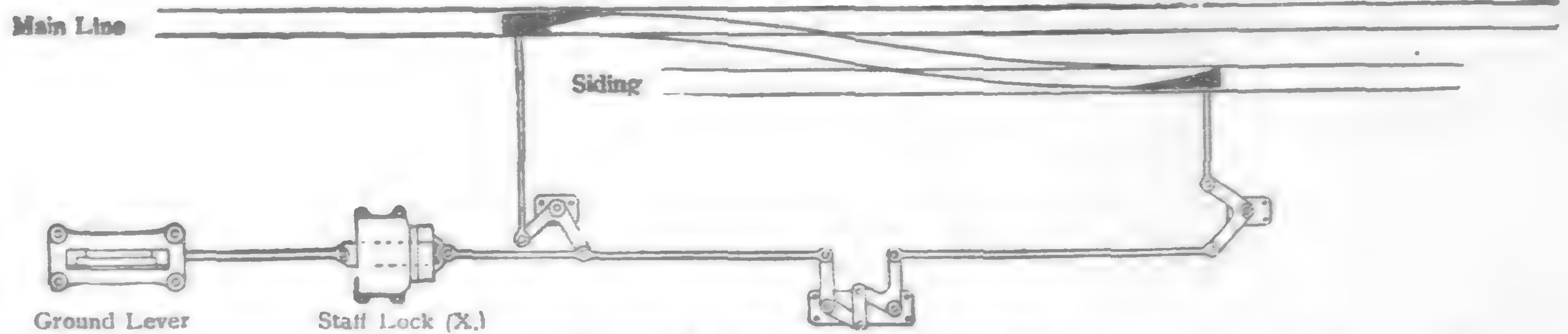
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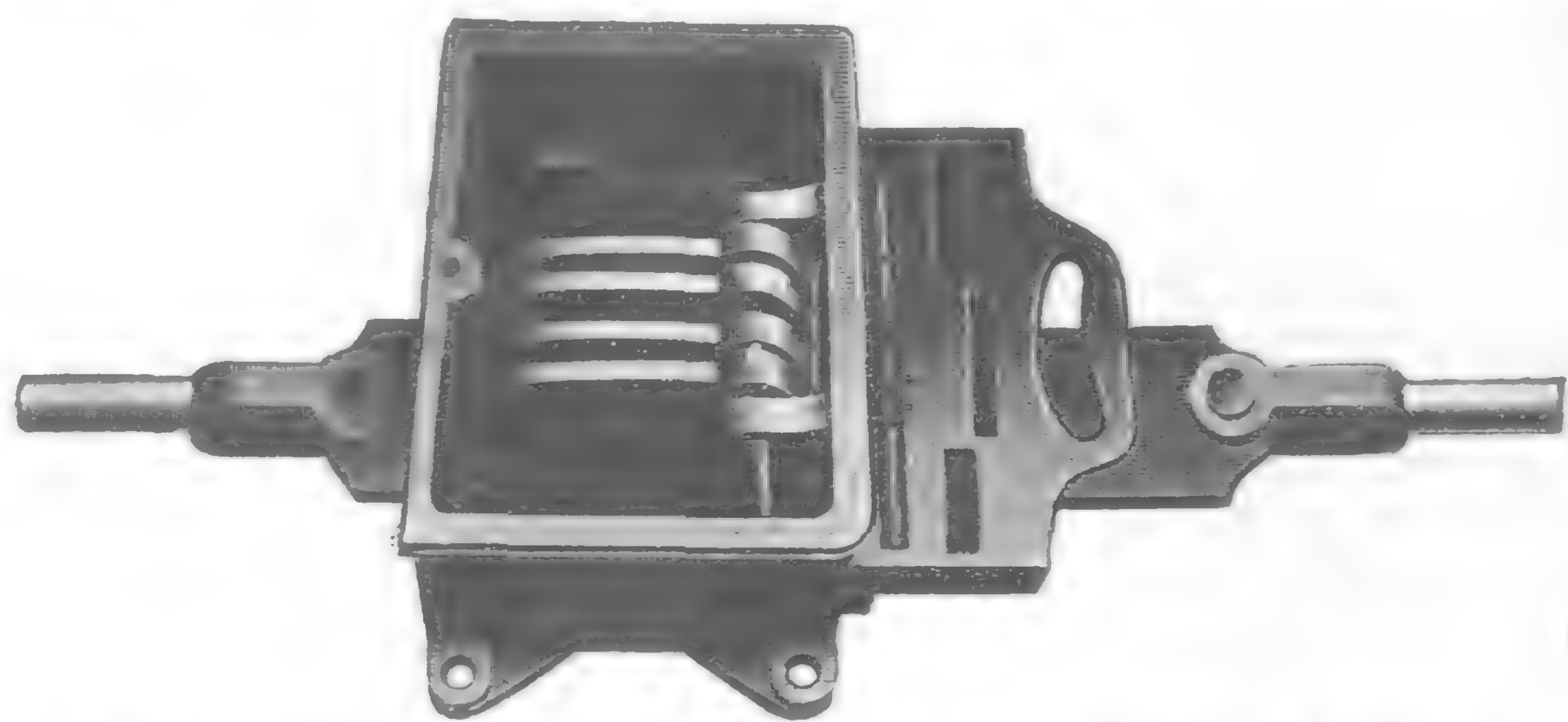


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Staff Lock for Outlying Siding.

When a train is required to enter or leave an outlying siding the staff is placed in the top slide of the lock, which is then pushed in. The lower slide, which is attached to the ground lever, is released, thus allowing the ground lever to be operated. When the points are set for the siding the train staff is securely locked in the box.

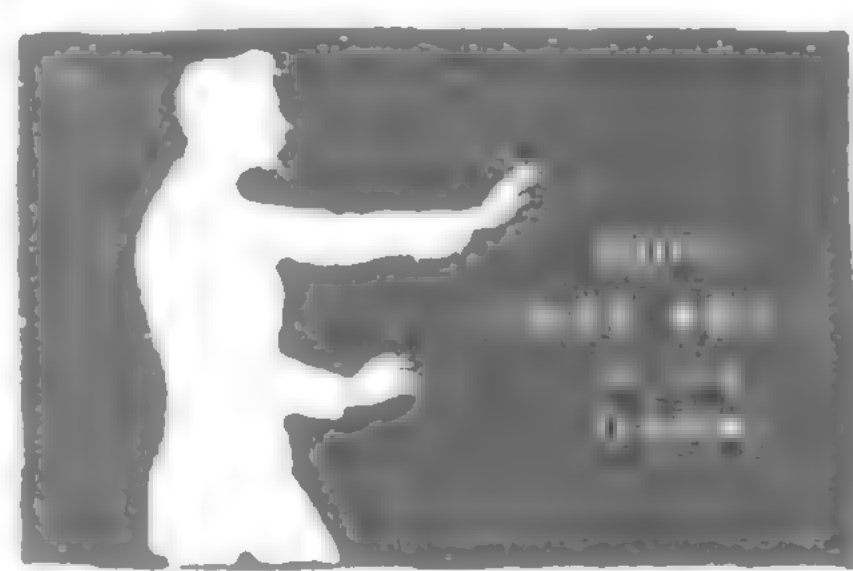


Staff Lock (X) with cover removed, for Outlying Sidings.

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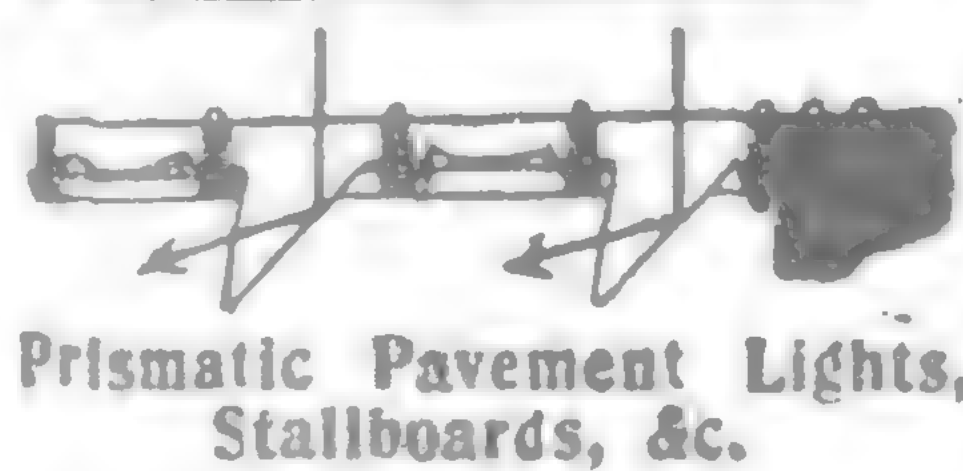
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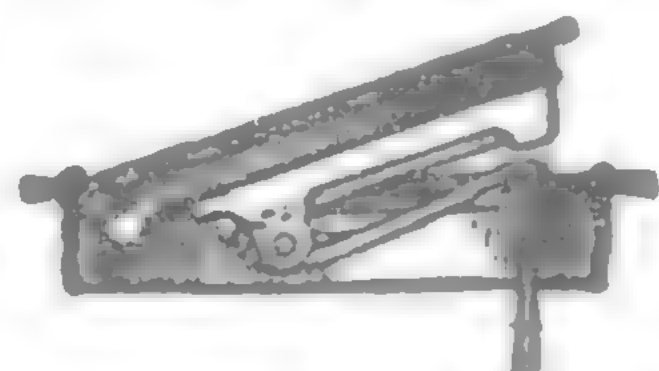


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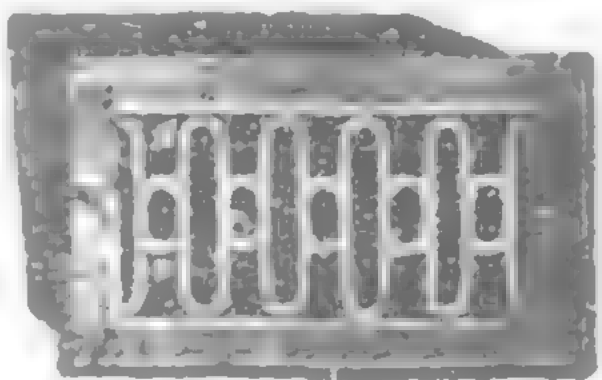
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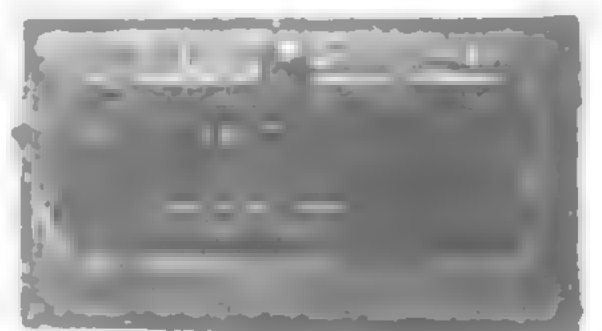
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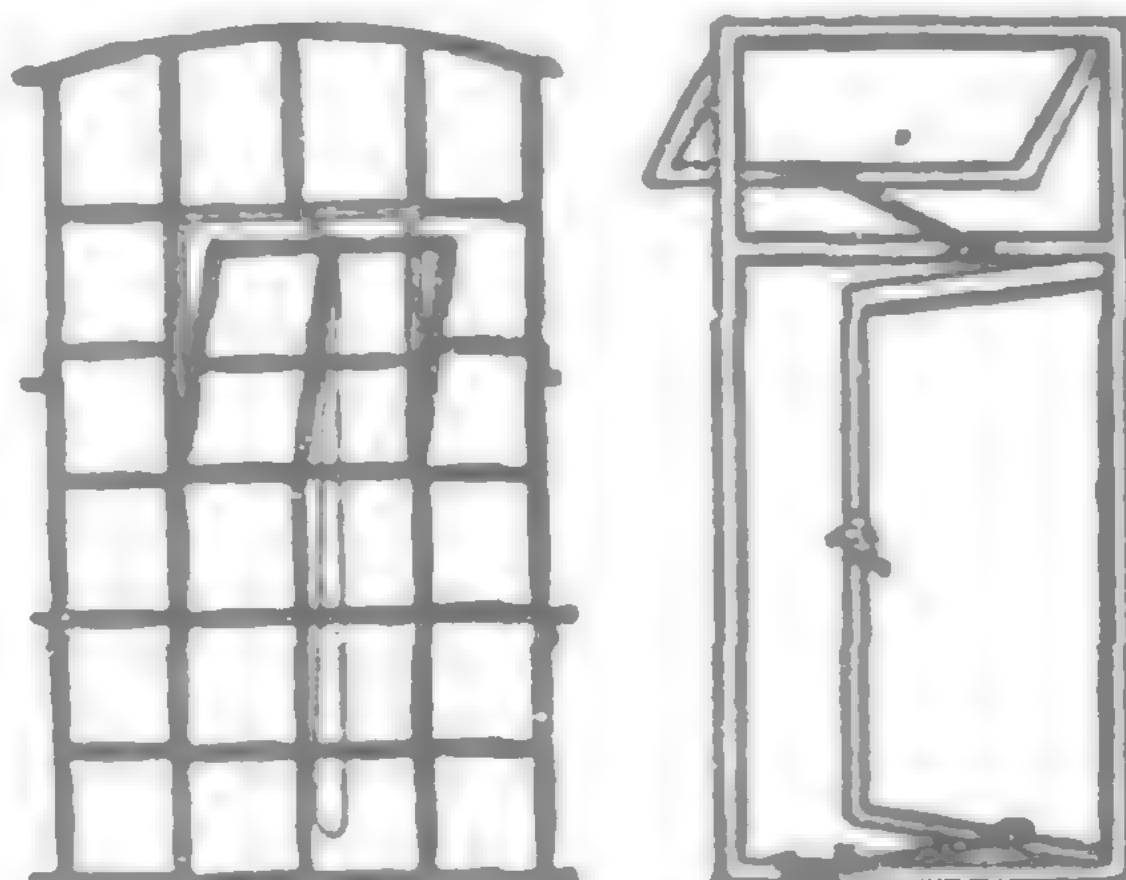
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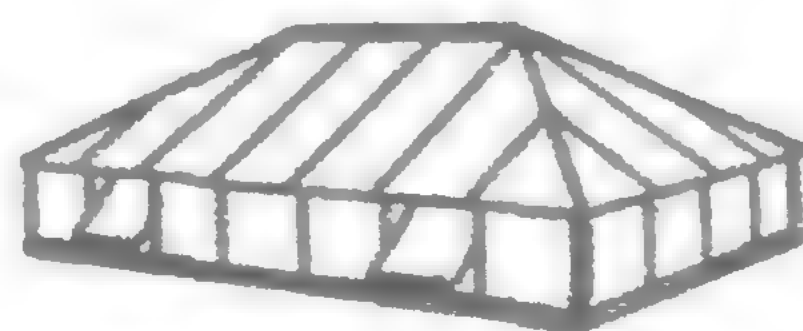
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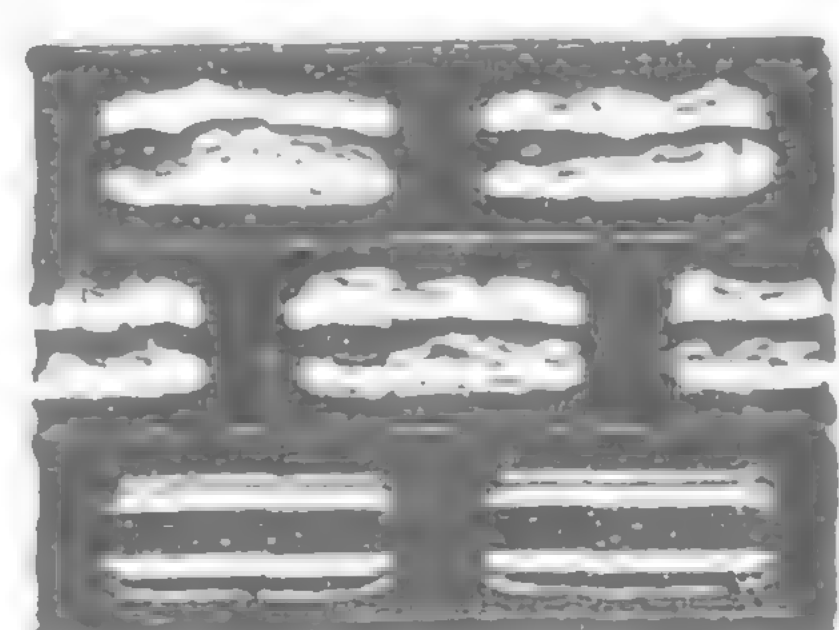
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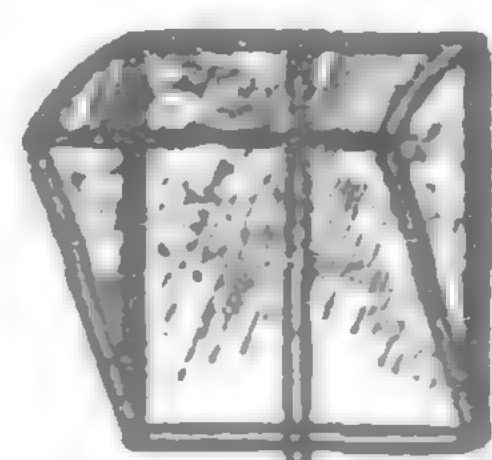
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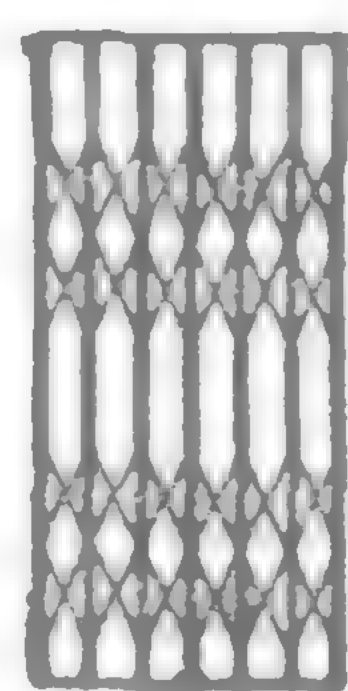
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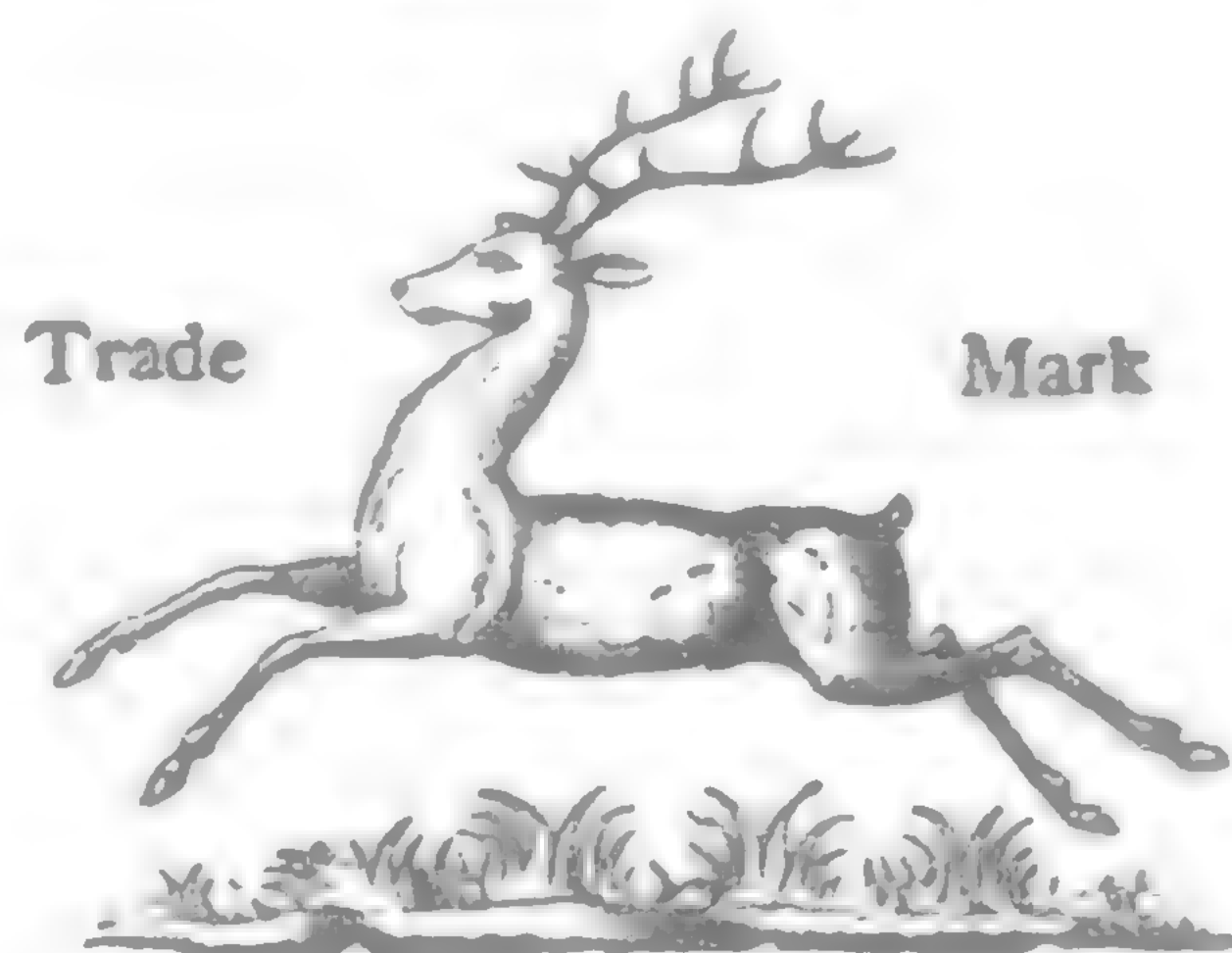
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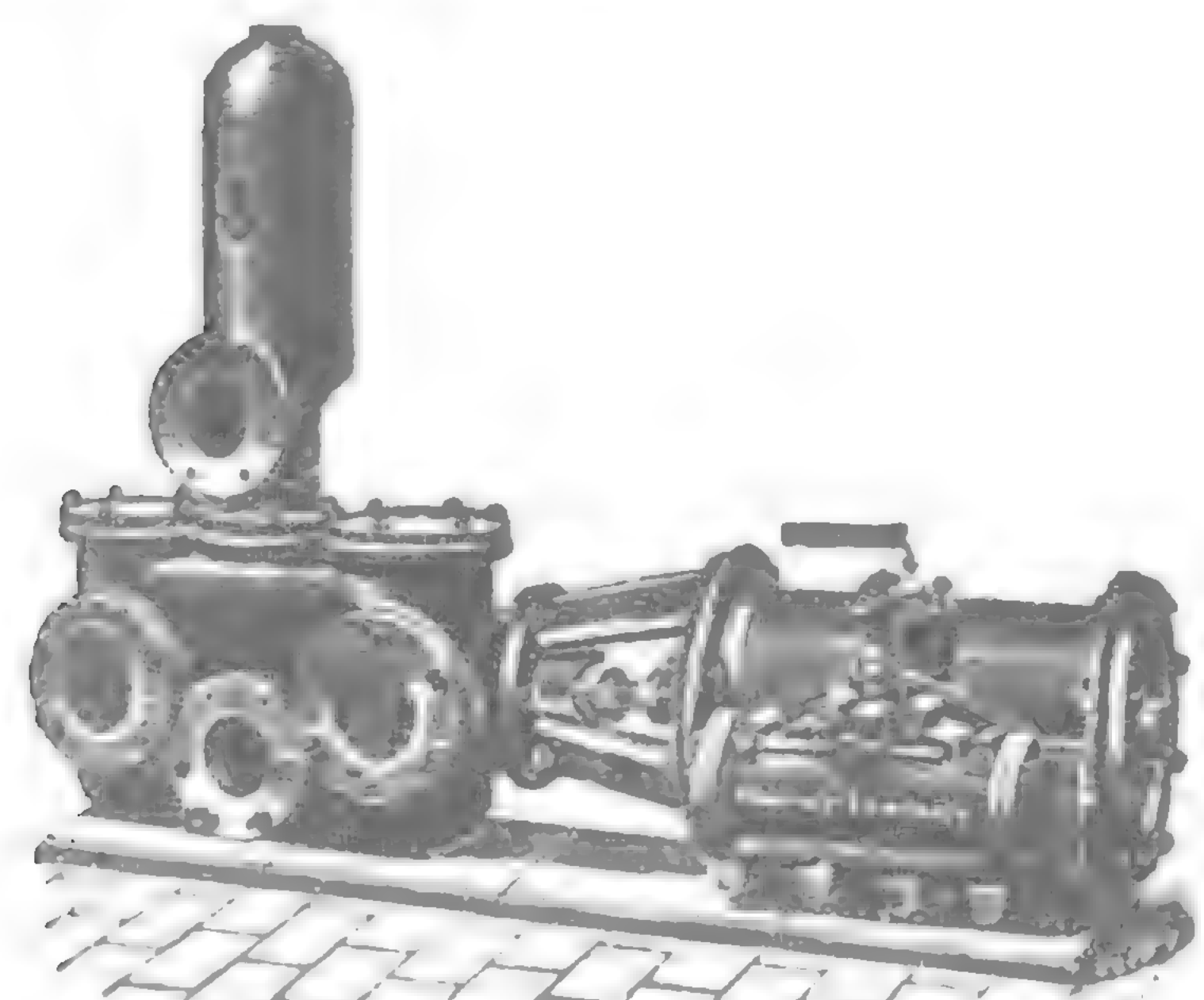
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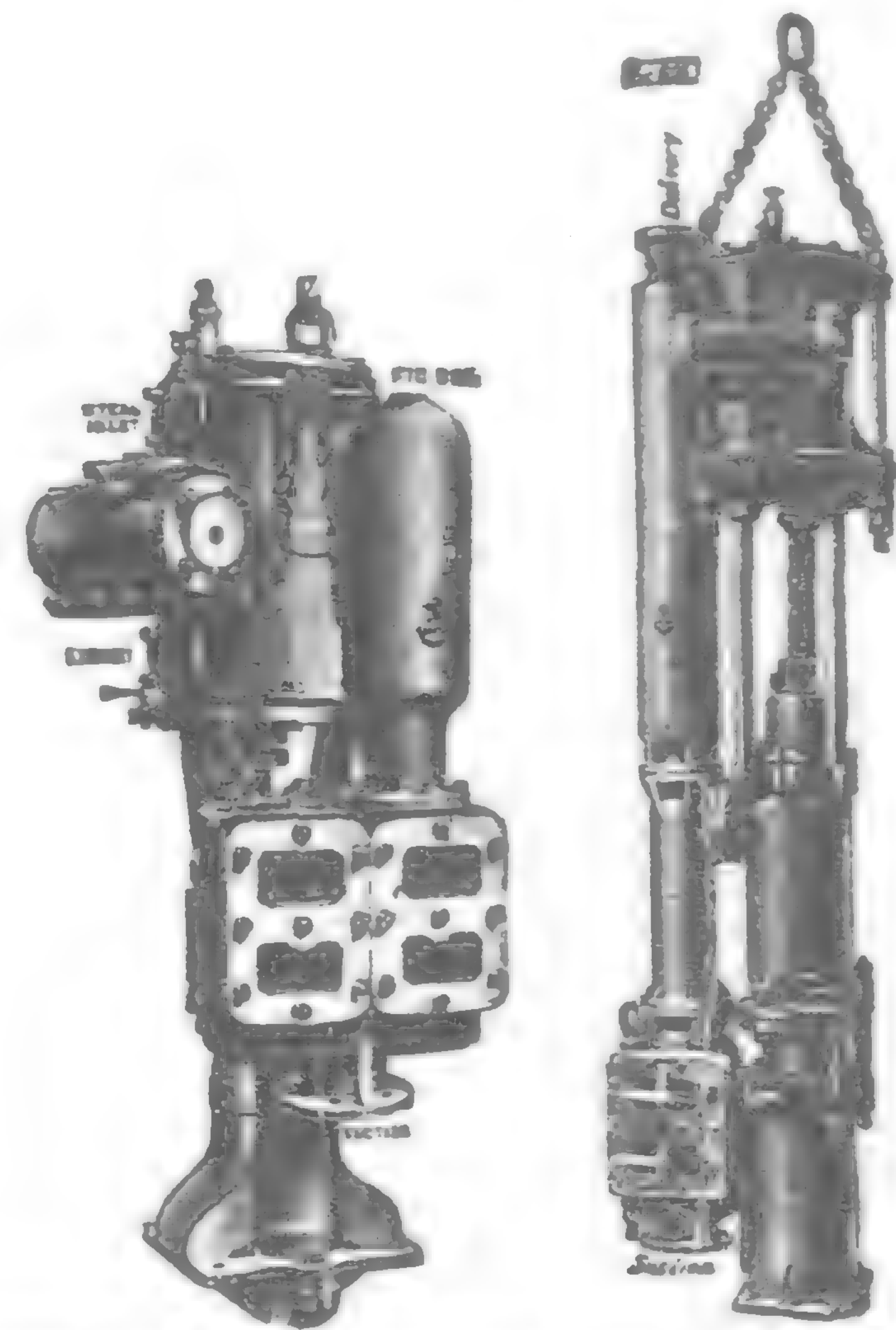
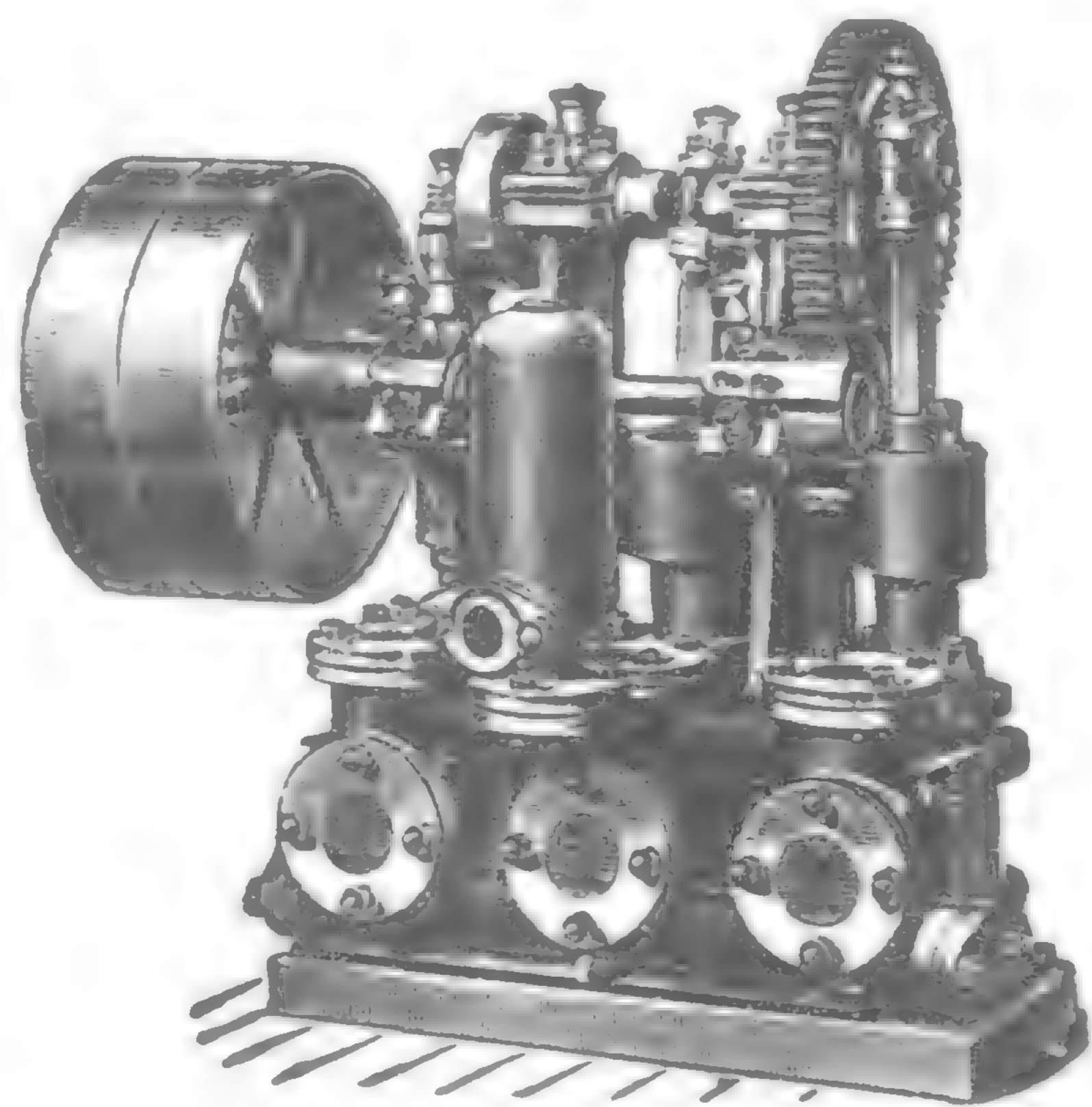
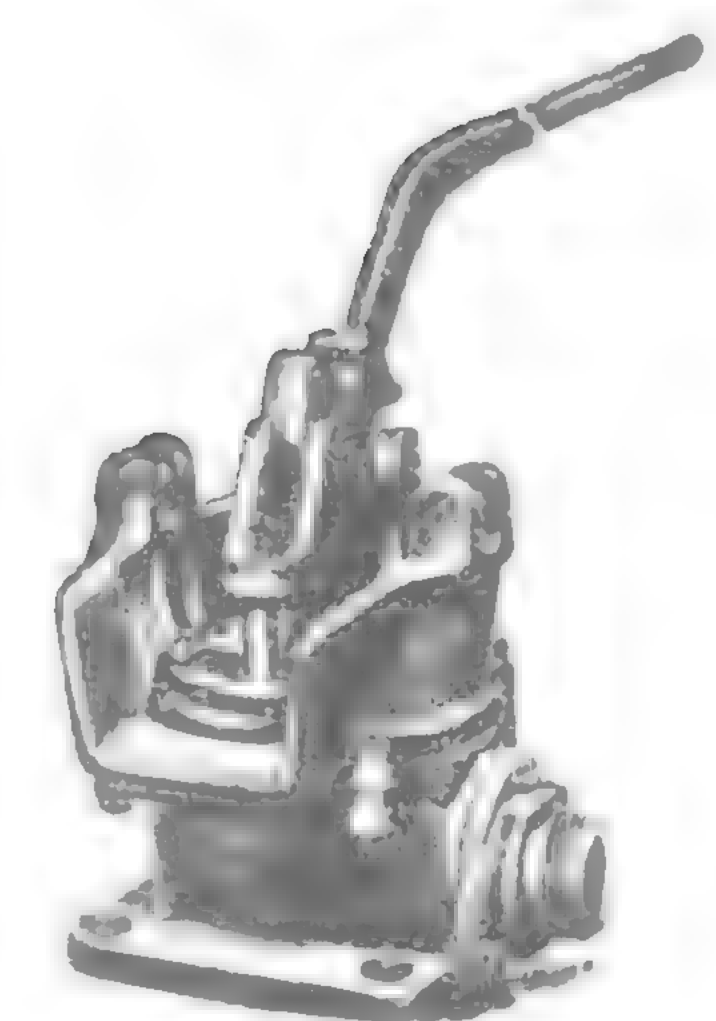
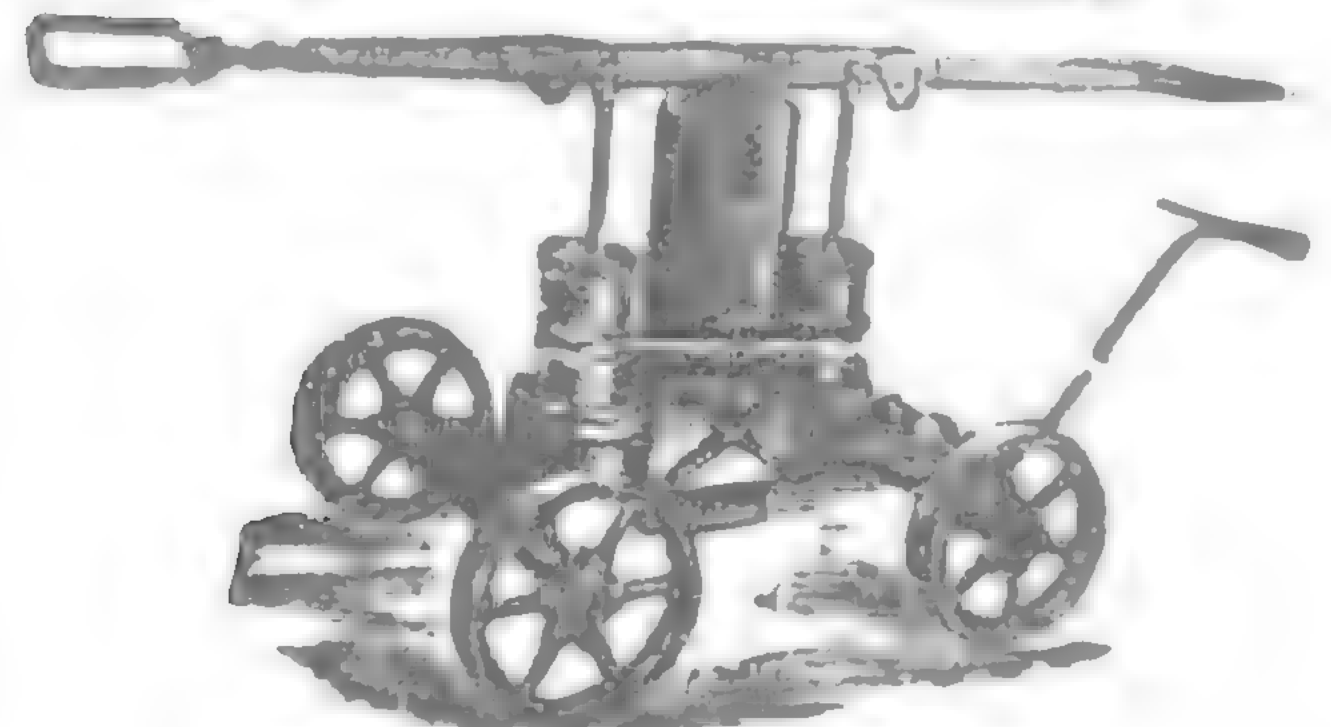
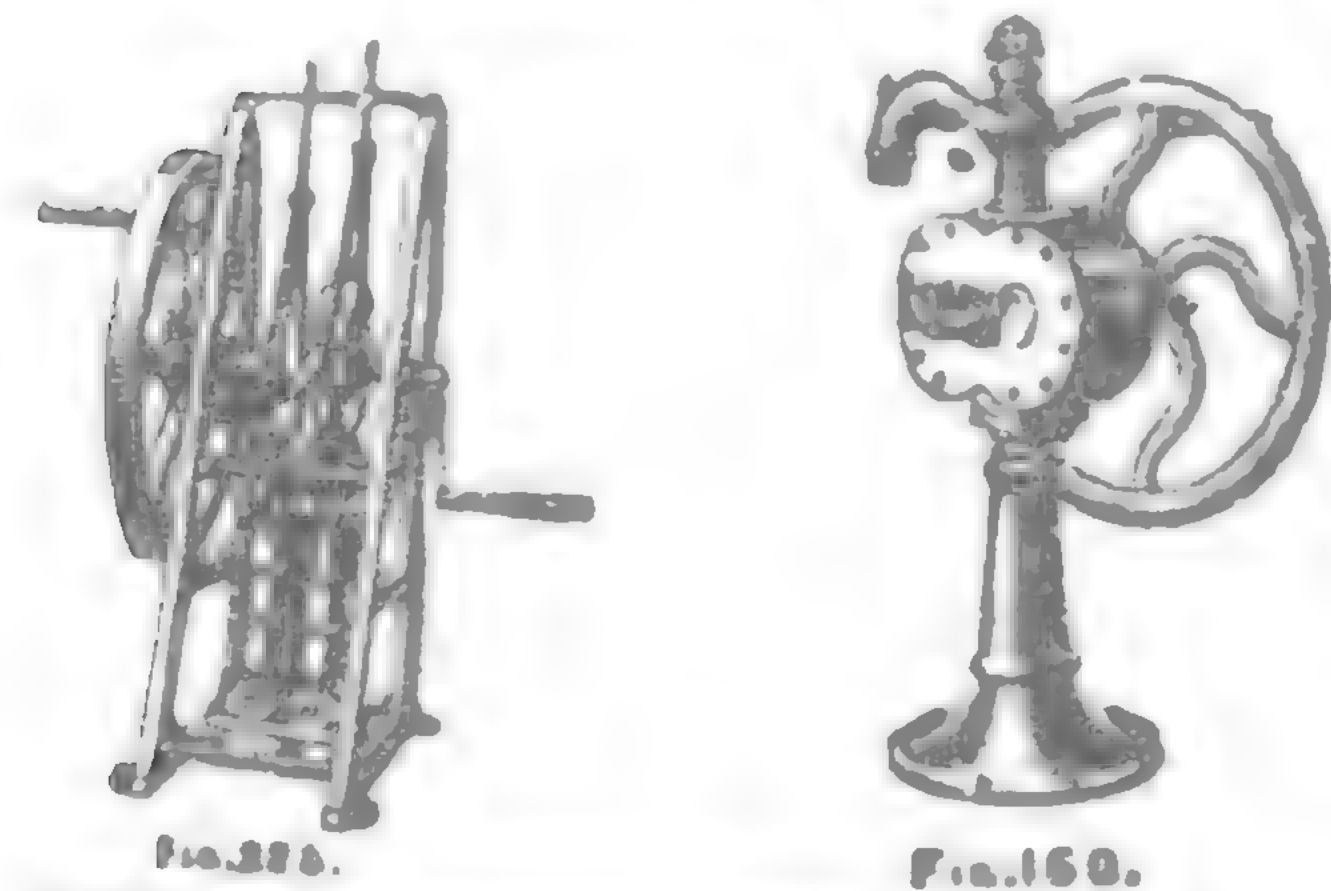
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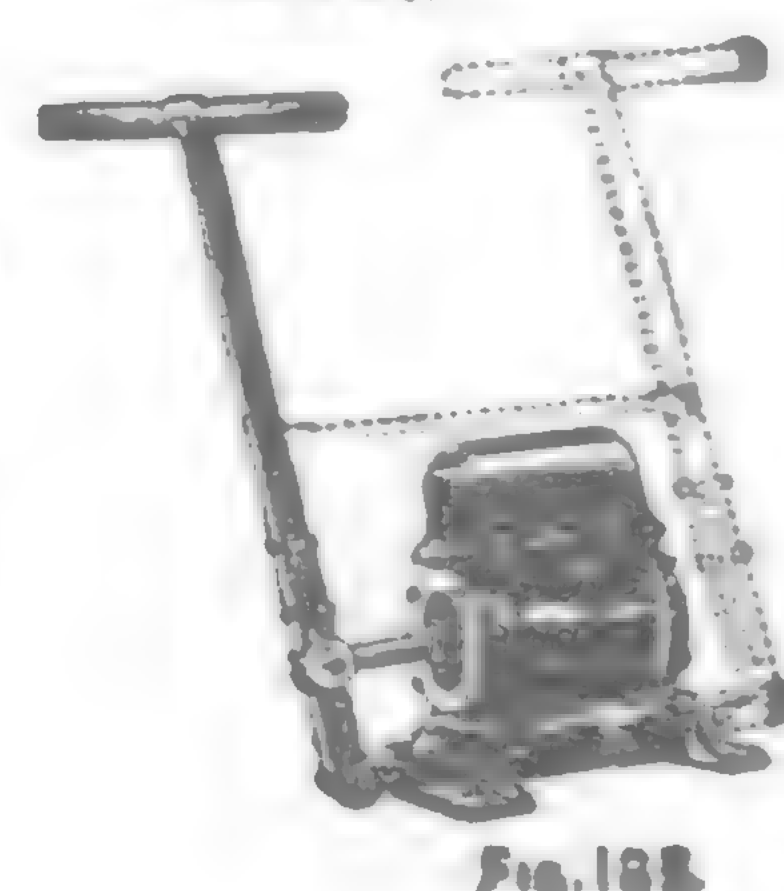
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THE FAR EASTERN REVIEW

COMMERCE :: ENGINEERING :: FINANCE

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No. 8

END THE PHILIPPINE MUDDLE!

**America is Bungling and Botching by Political Partizanship a National Task
Which Can and Should Be Taken Out of Politics**

[BY PATRICK GALLAGHER, EDITOR OF THE FAR EASTERN BUREAU; FOUNDER AND FIRST EDITOR OF
THE PHILIPPINES FREE PRESS]

We Americans are making a sorry mess of our opportunities in the Philippines. A national task which cries out to us from across the Pacific is being bungled and botched because, instead of approaching it in a national spirit and applying to it the wisdom, the experience, the imagination, the courage, the capacity which we possess in abundance, we are discouraging and disgusting ourselves and disconcerting and disappointing our Filipino friends through blunders born and fostered by political partizanship. Unless we are willing to open our eyes to the truth, to see and to acknowledge our error, to recognize the one possible remedy and to adopt it, the ambitious undertaking which we shouldered—largely by accident and, perhaps, too light-heartedly—seventeen years ago, is doomed to dismal failure.

We have just witnessed the unpleasant spectacle of a distinguished and unquestionably sincere cabinet officer charging a former President with partizan bias, and the former President's plea in justification. Other less distinguished, less sincere political controversialists damn or deify the acts of our present administration in the Philippines; the bewildered American having no special means of information on the subject wonders which side is right, which side is telling the truth and which side is not? The question is very easily answered.

Neither side is telling all the truth. In this matter of our present and past government of the Philippines both sides are fundamentally wrong.

For seventeen years the party out of power, if not the one in control, has made a political issue of the Philippines. Possibly, at first, that could not be avoided. But it could, and should have been avoided in the framing or in the amending of the Philippine organic act. "It is never too late to mend." We can end our muddling, our blundering in the Philippines if American disgust over the present unsavory situation concentrates behind a demand that our national task in the Philippines be lifted out of the whirlpool of politics so that we may do the work that still remains to be done as thoroughly and as expeditiously as possible.

Mr. Taft speaks with honest pride, with commendable admission of his personal interest in our unfinished Philippine undertaking. He labored well for his country, for the Filipinos, at Manila as the first and only civil governor—the more imposing title, "Governor-General" he helped bestow upon his successors—all, without exception, honorable, able men. Mr.

Taft, General Wright, Judge Ide, General Smith, Mr. Forbes—the nominees of three successive Republican administrations—I do believe gave the best that was in them to the performance of difficult, sometimes heart-breaking work at the Ayuntamiento and Malacanang, Manila. I am just as sure that Mr. Francis Burton Harrison is giving the best that is in him, now, as the Democratic nominee at Manila. They are all sincere, able, honorable men. But all, to my knowledge, have made mistakes.

Mr. Taft very properly blames Mr. Harrison for not heeding sufficiently the advice of experienced American officials, long on the ground, and for too summarily (in some cases) and most unfortunately (in others) displacing able and successful pioneer civil servants before actual experience of the Manila governmental atmosphere could come to the aid of his better judgment and assist him to avoid mistakes, injustice. Well, so, too, did Mr. Taft err when he first went to Manila, ultimately to build well and wisely, to win an international reputation which no patriotic American will begrudge him. General Arthur MacArthur had very strong views on this subject, and I am quite sure that Mr. Taft—honorable, manly to a fault—wiser through experience, will be among the first to admit that in at least some things MacArthur was right and he was wrong.

Mr. Taft blames Mr. Harrison for adopting too readily the views of Messrs. Quezon and Osmena, while (very fairly and frankly) he commends one of Mr. Harrison's acts in direct opposition to the will of his Filipino associates. Before Messrs. Quezon and Osmena (as a lineal and inevitable result of Mr. Taft's own policy in the Philippines as civil governor and, later, at Washington as secretary of war and President, and by right of their popularity and the polled votes of the Filipino people) became political powers in the islands, the late Benito Legarda and T. H. Pardo de Tavera were utilized by Mr. Taft and his successors in much the same way. I have a vivid recollection of incidents of importance where good and honest American advice was over-ruled or ignored to placate the self-constituted representatives of the Federal Party—men whose title to Filipino leadership was so dubious that the first political typhoon blew them into oblivion. At least, Mr. Harrison's Filipino associates have the merit of being representative, according to our American standards; while in justice to Mr. Taft it must be said that he had to make the most of the most tractable, available material.

All these charges and counter-charges are susceptible of analysis which leads inevitably to the conclusion that much can be said upon both sides. Our government of the Philippines has not been ideal: we have flopped, blandly, from one blunder to another. We are doomed to go on blundering, muddling, "building and spoiling, spoiling to build again," until that day when the American people will surely force Congress to take the Philippines out of politics. This is as certain to happen as anything in this most uncertain world.

The utter ignorance of the average Congressman as to vital Philippine facts is amazing. Republicans, Democrats, alike with eye and ear trained to domestic political possibilities, stop off at Manila, Cebu, Iloilo and Zamboanga, "inspect conditions," absorb mountains of misinformation—usually aided by disgruntled, discharged officials—and return to Congress and their constituencies to belch forth lava which loses nothing that partizan heat can bestow. A plague upon both their houses! Many years residence in the islands, free from interested, partizan surroundings, taught me to regard these "expert" outpourings as not merely valueless but positively dangerous.

It is high time to stop theorizing, wrangling over the Philippines. While we are wasting valuable time in Congress and in the islands, coddling the Filipinos one moment, curbing and cussing them the next, our real opportunities out there are lying fallow, Philippine bonds which should be booming are as drugs in the market—vastly alluring world monopolies are crying in vain for capital. Capital will not flow into the Philippines, trade cannot thrive, until the government of the islands is put upon a businesslike, instead of upon an unstable, partizan footing. With all respect to Mr. Taft, whose breadth of vision I admire, our government of the Philippines has been at no time free from the partizan taint, however otherwise may have been intended, and despite the very laudable association of able men who were avowed, if not very pronounced, Democrats.

Here is the one possible cure for our present Philippine muddle:

Let us admit to ourselves and frankly tell the Filipinos that, while sensible of the binding character of the promises already given to concede complete Filipino independence when the Filipinos are able to sustain and defend themselves as an independent nation, **if, then, they elect to pass from under our flag:** with honor to ourselves, in view of the responsibilities which, wisely or unwisely, we have undertaken, in their own interest much more than in our interest, **we can-**

not—even if we desired to do so (which we do not)—name that future, possible, day of severance. They must trust us to be just and fair, while we are bound in honor to give them a real chance to become self-governing, as we have been doing, as undoubtedly we will continue to do.

If we had advanced more rapidly and, prior to August, 1914, set up an independent Filipino commonwealth (as was advocated) under an international guarantee of neutralization, what flag would now be flying over the Philippines? The FAR EASTERN REVIEW asked this question shortly after the outbreak of the **Great Folly**. Is it not morally certain that the resultant complications would have plunged the United States into the war? This **Great Folly** has vitally affected the Philippine problem. The Filipinos, with whose aspirations I am in hearty sympathy, should step guardedly, cautiously, now, lest they make an irremediable blunder.

Let us re-organize our government of the Philippines, remembering that we have set out to do something that has never been even attempted in the previous history of the world—to nationalize (with all that means) an alien people, whose history and traditions have nothing in common with our own. Let us realize the solemn truth that we can only succeed by bending all our own national energies to the job and that, for our own credit, **we must not fail.**

Let us write into a new Philippine Bill a provision which will make the Governor-General at Manila absolute master of the situation, free from baneful partizan influence, subject to removal only for cause and after impeachment and trial, giving him an ample term—ten years or thereabouts from his accession to the governorship. Assure to the vice-governor, appointed by succeeding Washington administrations, succession to the governorship, unless removed for cause after trial and impeachment. Stabilize the Philippine service, in the interest alike of American and Filipino officials, by according fixity of tenure and retirement on pension after faithful service. If wisdom and foresight exist at Washington and Manila these things can and will be done.

Spain failed in the Philippines because she tried to govern the island from Toledo and Madrid. The intrigues, the wrangles of court and Cortes are being duplicated by us on the backstairs of the White House, in Congress, in the Press. Are we living up to our reputation for shrewdness, for capacity in government, while now we tread in the self-same blunder-blotched footsteps of Spain?

ROADS—THE SALVATION OF CHINA

[BY ARTHUR J. MOORE-BENNETT, C.E., F.R.G.S.]

From the earliest times rulers of all countries have found it expedient and necessary to build roads, and such roads built in the Roman Empire by men who lived more than two thousand years ago are to-day found acting as the foundations of the roads on which countless thousands of men, stores, and guns are being conveyed by motor traction in the area of the armies in Northern Europe. The coming of the locomotive for some years diverted men's minds from a true appreciation of national highways, but the advent of the light steam tractor and the motor engine again focussed engineers' attention upon the adaptation of the new invention for transportation purposes. The result has been that in every continent new national highways, and roads with surfaces calculated to stand the stress of modern conditions, have been laid down. Even in such densely populated and highly developed lands as Britain and France much freight, which ten years ago was wholly handled by railways, is now being carried by motor transport with a greatly decreased ton mile cost, while in the newer countries, such as India, Canada and the United States, tractor and motor roads have been the means of opening up and developing industries which could not have been aided in any other way, and thousands of miles of these roads now exist in America alone.

Of all the great countries in the world, China is easily the worst provided with efficient means of communication, and the purpose of this article is to show how China, profiting by the lessons learnt by others—could build all the roads necessary for her interior development without borrowing from foreign countries and without enhancing her external obligations in any way.

At this time when the Western Provinces are threatening anarchy, it would be the salvation of China if she had efficient means of communication between Peking and the outlying provinces. At any time, however, it is imperative that there should be direct means of communication with the Frontier provinces both East and West in order to allow the Central Government to exercise its authority over the distant and often unruly Provincial Governments. It will be seen that while political trouble in the central Provinces can only affect the Chinese, the same trouble in those provinces which border on foreign countries may possibly jeopardize the whole country, and while it takes fifteen days or more to reach the Western Frontiers via the sea route—which involves using two foreign countries en route and which is impracticable for troops—or facing a fifty days' journey overland from the nearest Chinese port, direct com-

munication could be obtained which would bring the Western frontier within one week of Peking at less than one-fifteenth of the cost of any railway which has yet been suggested or surveyed.

Many of the Provinces which make up China are as strangers to each other for want of efficient communication, and while the ties between them and the Federal Government must of necessity be elastic a real lack of control exists in many cases merely because the people are so shut off from outside communication that they become intensely localized and have all the traits of character and feeling common to communities whose geographical position precludes social and commercial intercourse with their fellow subjects in neighboring provinces.

Again, most of the internal industries of China suffer from lack of free communication. Many industries, indeed, are impossible owing to the fact that no means of communication exist. Mining in many provinces does not pay for the same reason, and mule and camel hauls of four and five hundred miles are by no means uncommon, while certain trade routes of upwards of a thousand miles are kept open only by animal traffic over the worst trails imaginable.

The Chinese officials fail to recognize that the lack of roads has far reaching political and commercial effects, and that much of the political unrest of the last few years would not have existed had free communication between the different Provinces been opened. The Government also fails to recognize that a poverty of roads means a poverty of taxation as it does a general state of disruption and lack of work, while good roads mean development both political and commercial; and the free interchanging of ideas, resulting from communication, means a general state of well-being both for the people and the government.

In many districts of a mountainous nature—and it should be noted that fully three-fifths of the country comes under this heading—the farmers in the valleys cannot get sufficient for their cereal crops to pay the cost of growing, while their neighbours on the mountains but a few miles away cannot afford to buy sufficient rice and wheat to keep them in health, a condition of affairs resulting from an absence of roads and the cost of transport. If decent roads existed both farmers and mountain people would be better off, and both could afford to pay more taxation than is to-day possible. In certain of the mining centers this is very noticeable. For instance, in Kochiu, in Yunnan, food of every description, coal, charcoal, etc., has to be carried on mules over rough mountain tracks from twenty up to two hundred miles, and the resulting cost of bare necessities is so high that although the miners are actually well paid yet they are probably the poorest class and community in the country. This is also true of the copper areas, notably Tungchuan, where supplies of all kinds have to be carried in on mules, and the resulting copper has to be carried out 130 miles to the nearest port, over ranges of more than nine thousand feet in altitude.

Tractor or motor roads have been built in India and Canada by white and native labour at a cost of from five hundred to seven hundred and fifty pounds sterling per mile average run on long distances, and here in China such roads could be entirely built by employing criminals. For many generations China has beheaded countless prisoners for various offences, and if, instead of wasting this potential labour, she were to change the sentence to one of life long imprisonment and labour on the roads, the prisoners would be just as surely punished as by being executed and the up-keep cost need not exceed that of a picul of rice and a catty of salt per man per month, or, put in money terms, let us say two dollars fifty per month per man. Soldiers could be used as warders, and as these have to be maintained in any case the cost would not be raised on this account, and every criminal of any kind could be sentenced to labour on the road as a punishment for all offences of whatsoever kind.

Old and disabled men could be used for breaking road metal, for cooking and for cleaning quarters, and no labour of any kind need be wasted while existing prison staffs could be utilized in the work. Women offenders could be utilized making suits, etc., for working prisoners, and the whole work could be planned to give light and severe punishment as was considered necessary.

The number of offenders in a certain province in 1912 was given to the writer in confidence as being about 7,112 for the year, of which over 600 were executed, and while this does not probably represent a fair average still there must be at all times within the empire at least fifteen thousand criminals who might be used to profit by the community on road work.

The bulk of work to be done is purely manual in character, and would not require either the employment of expensive foreign aid or tools, although it would probably pay the government to get the work organized and started by some very competent organizer and engineer who knew both the country and people; and while there might not be sufficient skilled bridge builders, masons and carpenters among the criminals employed and at the disposal of the authorities such men could probably be hired at a very much lower cost than has been found possible in foreign lands.

The actual cost per mile would, of course, vary enormously with the varying conditions met with, but for a twenty foot macadamized tractor road, with bridges and culverts to take a limit of five ton axle loads and a surface to stand speeds of five ton loaded tractors at six miles per hour, or light cars at fifteen miles per hour, the cost of labour and tools for average miles could probably be kept down to less than three thousand dollars, although bridge work might increase the cost in certain sections.

It should be borne in mind that efficient roads are now in operation in Western Canada and Burma having grades of one in eleven, and such grades permit of lines being chosen which would be utterly impossible for any other form of mechanical traction, and whilst such steep grades are not to be recommended for all the year transport, grades of one in fifteen or sixteen have been found to give excellent results in countries having as great an annual rainfall as any part of China.

It would, of course, be necessary to guard such roads from being used by the narrow tyred native cart, which is calculated to ruin any road surface in the world, and it would be essential for the government to have the right to take any land sites necessary for right of way which its engineers declared necessary, otherwise the costs would be prohibitive. Inasmuch as the passage of such a road would enhance the value of the surrounding property the hardship would not be great while the good conferred on the community would be immeasurable.

In well surveyed main trunk highways it would not be necessary or desirable to follow the present plan of making the road twist and turn in order to touch every small village enroute, but the easiest and shortest line would be taken between the termini, and short feeder roads would be built to the main road from such towns, cities, and villages as desired direct communication, while mining centers and industrial works of all kinds could construct branch roads to their works.

The cost of such roads should be borne partly by the Federal government, which would derive direct political aid from them, partly by the provincial governments, through which they passed as these governments would derive direct taxation gains owing to the developments the roads would make possible, and partly by the prefectural districts actually served, as these would benefit by enhanced land values. And every government, both federal and provincial, as well as municipal, should be ordered to make grants-in-aid for the annual up-keep of such roads, or, if this is not considered possible in China, then toll charges should be made, or every vehicle be licensed, and these taxes used for up-keep. Such a road built from Hankow or Wuchang, going via Yochow, Shenchowfu, Chenyuan, Kweiyang, to Yunnanfu or Talifu would make it possible for fast light cars to do the distance in less than a week, while troops could be transported in regulation pattern three ton lorries at the rate of two hundred miles per day as against less than thirty miles per day by forced marches, and the whole cost of such a road need not exceed £300,000, including costs of the necessary rock crushing plant and road rollers.

Direct West or South-west of Peking into Shansi, Shensi and Szechuan the country is eminently adapted for such roads, and the whole country only needs such communications to enable it to develop as other countries far less gifted with natural resources have done.

Motor tractors and lorries are not expensive either in first cost or up-keep, and if these are objected to, then steam tractors of similar pattern to those which are doing such good service in Europe to-day can be had at relatively low cost and be capable of long life. Coal and coke being plentiful in most provinces of China their fuel and up-keep costs would probably be even lower than motor lorries. In France and Britain to-day goods can be transported by road cheaper than by train, and government loads up to eighty-five tons per piece have been handled on ordinary British roads during the last year by steam tractors. If this war has proved nothing else it has proven that the road lorry and tractor as now constructed can go over practically any surface, can extricate itself from almost any shell crater and ditch, and generally can be handled under the most trying conditions possible at a minimum of cost, and after the war Europe at least will owe more probably to this, the newest form of transport, than to any one other invention of recent years.

China built the great wall, and if this has to some extent outlived its usefulness still it proved itself a bulwark against the wild northern tribes for many a generation, and if China can build a work which is one of the seven wonders of the world then surely China to save herself from foreign aggression, to

help her people to develop and to increase her richness can at this time, with two thousand years more education and experience than her predecessors of Chin-shih Hwang-ti's time, build the roads which are as necessary for her good government as they are for her commercial development.

Different men see China's needs in various aspects, but the writer believes that many of this country's problems could be solved if good roads were given the people, and commercial, political, and social intercourse were secured between the many races and tribes that go to form this conglomeration of States. Certainly much distrust and suspicion of motives that now exists could be swept away, and many industries which have starved for lack of roads could be resuscitated, while the central government could assume a far more direct control over far off territory than would be possible by any other means. China is not capable of building a vast system of costly railways, and pledging her money to build them and so mortgaging her executive freedom to foreign nations is not truly helping her to develop in her own interests, but showing her how to adapt foreign inventions to her necessities and conditions will do far more both to aid her in developing and ruling the country and also in appreciating the use of foreign advice and experience.



GENERAL VIEW LOOKING FROM NORTH, SHOWING NO. 2 PIT ON LEFT, NO. 3 AND NO. 1 PITS ON RIGHT

PEKIN SYNDICATE'S HONAN MINE

The Pekin Syndicate Limited was formed in March, 1897, for the purpose of obtaining and developing Concessions for Mining, Railway, and other undertakings in China. A contract was signed at Peking on 21st June, 1898, in connection with operations of coal mining on an extensive scale in North Honan. After the usual preliminaries a permit was granted by the Chinese Government to commence mining operations at a place selected by the Syndicate in the District of Hsiu Wu Hsien in the Prefecture of Huai King. Principally owing to the Boxer Rising in 1900 little work was done until May, 1902, when the preliminary survey was made. Sinking operations were commenced at the end of 1902 but had not proceeded very far before water difficulties were encountered. The sinking of a second shaft was commenced in the early part of 1903. Water was also encountered in such quantities that it was found necessary to abandon all further sinking pending the arrival of additional boiler and pumping plant. On resuming operations further quantities of water were met with and no less than 150,000 gallons of water were flowing into the mines per hour. In 1907, what are at present known as Nos. 4 and 5 Shafts were commenced and successfully carried down to the coal, which was reached in August of that year. Subsequently operations were recommenced at the shafts which had been temporarily abandoned, and in 1911 a total output of about 1,000 tons per day was obtained. The output gradually increased to 2,000 tons per day when in September, 1912, No. 4 Pit, which was then producing 875 tons per day, was flooded: the water rising some considerable distance up the shaft. The estimated amount of water at the time of the in-burst was 250,000 gallons per hour, but the flow gradually

decreased. This disaster was followed by another inburst of water in April, 1913, this time in No. 2 Pit which was then producing 700 tons per day. Both these Pits had, therefore, to be temporarily abandoned, which left only one producing Pit, No. 6, the output of which was under 500 tons per day. Steps were immediately taken to increase the output of No. 6 Pit, and at the same time work was commenced in connection with a new shaft (Machien Pit), about one mile distant West of the other shafts. No. 4 Shaft was recovered in October, 1913, and is now producing 500-600 tons per day. Machien shaft is also producing coal, and the mines are now capable of producing 3000-4000 tons per day. Water continues to flow into the Mines, but this is now comfortably dealt with by the large Hathorn Davey, and other pumps. The Syndicate's coal is sold by the Fu Chung Corporation which was brought into active operation on the 1st June, 1915, for the purpose of handling the sales and combining the interests of the local native mining concerns. The coal is sold in large quantities in the Provinces of Honan and Chili. There is also a ready market for the lump and cobbles in the various Treaty Ports in China. The Tao-Ching Railway built by Messrs. S. Pearson & Sons for the Syndicate connects the mines with the Peking-Hankow Railway, and also with the Wei River at the Eastern terminus. Coal is shipped in large quantities along the Wei River and Grand Canal, and the Fu Chung Corporation maintain a fleet of Chinese shallow-draft boats running between Taokou and Tientsin, carrying coal to the latter port and returning with machinery, plant, stores, etc., for the mines and the Tao-Ching Railway.



No. 3 PIT MAIN PUMPING STATION



No. 4 PIT AND LOADING WHARF

Geological Conditions of the Honan Coalfield

The coalfield of Honan is situated at the base of the Tai-Hang Mountain Range, which rises abruptly from the Honan Plains forming the plateau of Shansi. The succession of strata in the district is briefly as follows:—

- 1. A recent deposit of alluvium yellow and red clays with conglomerate beds up to a thickness of 250 feet. The conglomerate beds near the base are mostly water bearing.
- 2. Yellowish arenaceous clay shales with beds of yellow and brown vertically cleaved sandstones. The uebercarbons of Richtofen which in Shansi are of a thickness of 1,000 feet are in the case of Honan 90 feet.

3. *Coal Measures.*

Upper Series				feet
Brown and Green Sandstone	..	..	..	60
Grey and Blue Shales	..	..	..	20

Middle Series				
Brown, Blue, and Grey Sandstones	..	..	..	60
Black clay, Shales, and Sandstones	..	..	..	40
Chao-Mei. (Coal Seam is generally present) varying thickness up to	..	..	..	1

Lower Series

Black and Grey Sandstones	..	..	..	60
Black Shales, and Sandstone bands	..	..	..	10

Coal measures strata above the main seam about 251 ft.

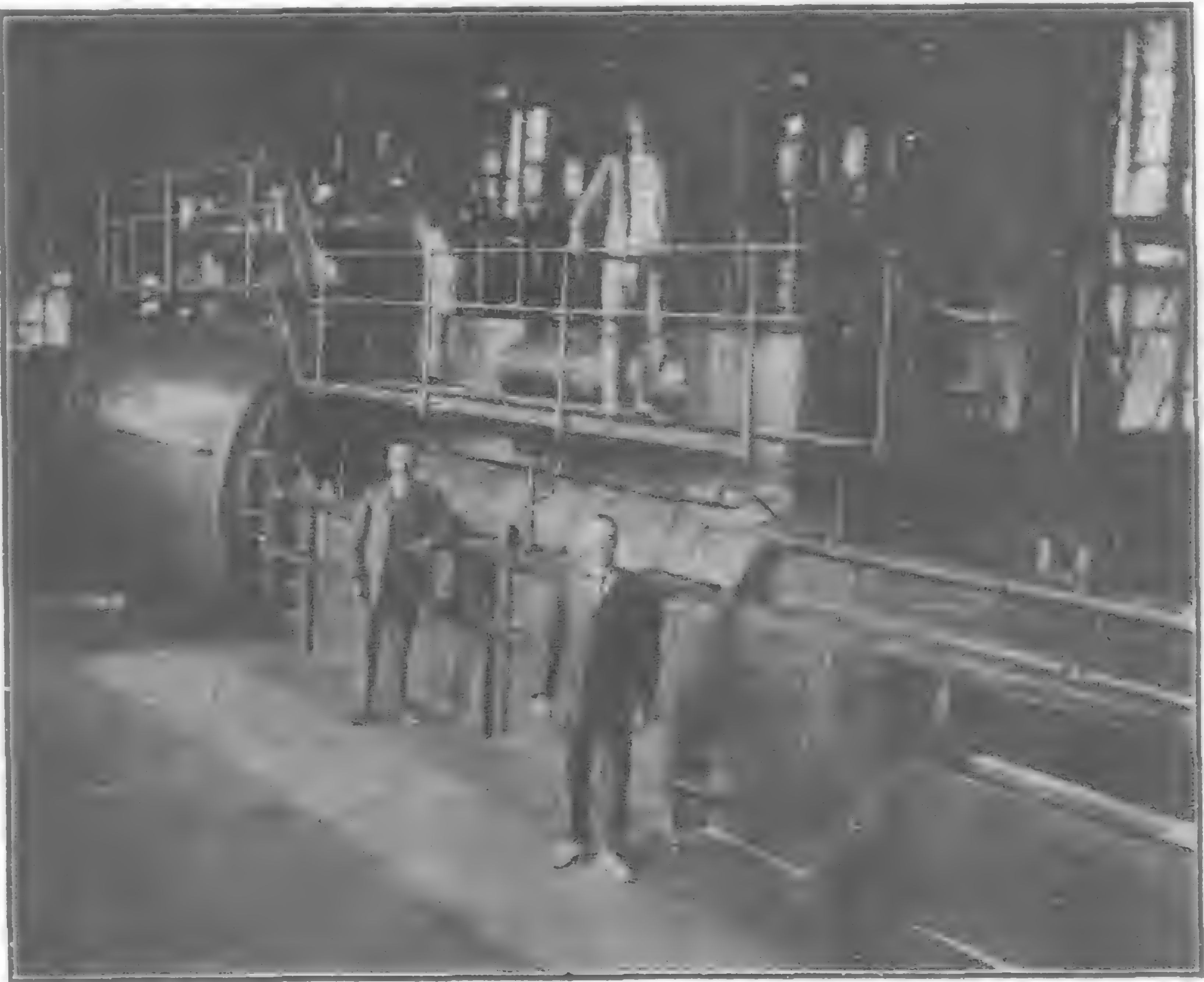
- 4. Main seam of coal, thickness varies from 6 ft. to 30 ft., average, say 18 Feet
- 5- Clay Shales, and Sandstones: the Shales being Carbonaceous near the top.. .. 250 Feet
- 6. Flint Limestone, massive dark blue or grey Limestone, contains nodules of black flints .. 30 Feet
- 7. Vertically cleaved variegated sandstones with brownish clay shales, and at the base white clay shales with bands of iron ore 80 Feet
- 8. Carbonaceous Limestone: grey and blue with purple bands at 1,000 feet down in the series .. 2,000 Feet

Method of Working

The workings have been laid out on the "Pillar" system. All working places are secured by timber sets, the legs being notched into the end of the bars, and the feet sunk into the floor.
In coal where the top part is hard and the bottom soft, the bottom portion of the seam is worked first, undercutting being done in the soft coal which forms a good "pricking."



SECTION OF MACHINE SHOP



HAWTHORN DAVEY PUMPS

Where possible the face is worked in two stages, the bottom part being worked up to 20 feet in advance of the top. This allows the top coal to give, and makes it easier to wedge down. The fullest advantage is taken of the cleavages in the coal for cutting in, "nicking" or giving loose sides to wedge off.

Wherever it is possible to obtain round coal, undercutting is adopted by the native miner, who is fully aware of the pecuniary advantage to be gained by the production of "Lump" coal as compared to "Mixed."

Where the seam is soft throughout or where the hard coal lies at the bottom, or the seam is a mixture of thin hard bands with intervening layers of friable coal, the roads are driven in the upper part next the roof, followed up by a "Canch" out in the roof to make height.

Plant

Owing to the large amount of water to be dealt with, a large proportion of the Plant comprises pumps of various types. At the main Pumping Station a large Cornish Pump by Messrs. Hathorn Davey & Co. has been installed. The main features of this Pump are as follows:—

Diameter of H. P. Piston—7 feet.

" " L. P. Piston—9 feet 2 inches.

Stroke—10 feet.

Speed—Average 7 Strokes per minute.

Capacity—440 gallons per stroke or 184,800 gallons per hour.

Steam pressure—75 lbs. per sq. inch.

Diameter of Delivery Pipe—21½ inches.

The Engine is worked on the drop valve system governed by the Davey Patent Differential Gear and has a Davey Trip Gear which automatically stops the Engine should the stroke exceed the designed length. The Piston Rod is connected by means of compression rods to the Quadrants, which give the spears a lifting motion. The Spear Rods are 20 inches square, and are coupled to rams by means of iron shoes. The Rams are bronze cased having a diameter of 26 inches. The Ram cases are 11 feet by 3 ft 8 in with brass neck bushes and brass glands and stand on cast iron foot steps 5 ft 5 in. by 4 inches. There are 52 Single Drop Valves, each valve having a diameter of 9 3/4 inches. The Suction Pipe is 16 feet long, and the nozzle is 4 ft. by 3 feet. A Surface Condenser has been installed in connection with this pump. In addition to the Hathorn Davey Pump the following Pumps are in use or standing as spare:—

8 Evans Horizontal Ram Pumps, capacity 30,000 gallons each per hour.

2 Worthington Jet Condensing Pumps, capacity 45,000 gallons each per hour.

4 Evans Differential Sinking Pumps, capacity 20,000 gallons each per hour.

8 Evans Cornish Sinking Pumps, capacity 1,000 gallons each per hour.

2 Weirs Boiler Feed Pumps, capacity 2,700 gallons each per hour.

2 Weirs Boiler Feed Pumps, capacity 6,670 gallons each per hour.

2 Worthington Duplex Pumps.

2 Worthington Horizontal Pumps.

1 Tangye Pump.

In addition to the above the Syndicate have installed the following Electrical Pumping Plant:—

4 Three stage Turbine Pumps by Weise & Monski, each capable of dealing with 75,000 gallons of water per hour against a total head of 700 feet. These Pumps are direct coupled to Siemens Protected Type Slip Ring Induction Motors, each with an output of 400 B.H.P. at 1485 Revs. per min. 3,000 Volts, 50 Cycles.

Boilers

The main Boiler Plant consists of:—

4 Lancashire Boilers, each of 1,000 square feet Heating Surface.
12 Babcock & Wilcox Boilers, each of 1,797 square feet Heating Surface.

2 Babcock & Wilcox Boilers, each of 2,852 square feet Heating Surface.

2 Babcock & Wilcox Boilers each of 5,764 square feet Heating Surface.

Winding Engines

1 Winding Engine by R. Daglish & Co.

1 " " " London Bros.

1 " " " Barclay, Son & Co.

1 " " " Cowlishaw, Walker & Co.

1 " " " Allis Chalmers & Co.

also

1 Steam Winch.

2 Crab Winches by Evans & Co.

Electrical Plant

The Electric Lighting Plant comprises 3 D. Generators each 40 K. W. 450 Volts by Siemen Bros. Dynamo Works, Ltd., direct coupled to 3 Vertical High Speed Engines by Ransomes, Simms & Jeffries.

The Electric Power Plant consists of 3 Generating Sets, 3,000 Volts, 125/147 K. W. by Mather and Platt, direct coupled to 3 Vertical Engines. One Main Switchboard with all necessary control gear.

In addition to the above the Syndicate have installed the following additional Power Plant:—

3 Siemens Three Phase Base Type. Alternators each with Shunt wound Exciter. Output 350 K.W. each at 3,000 Volts direct coupled to Browett-Lindley two crank compound, forced lubrication, enclosed vertical double acting Steam Engines, each with steam separator and steam trap.

3 20 B.H.P. Slip Ring Three Phase, protected type Induction Motors, each provided with protected Rotor starters, and switches. These Motors are wound for 500 Volts. Transformers are provided for reducing the voltage from 3,000 to 500.

3 Ejector Condensers by Ledward & Beckett, each to deal with 10,000 lbs. exhaust steam per hour, and maintain 26" Vacuum with Barometer at 30" and cooling water at 75° F. 60,000 Gallons of cooling water required per hour, each. Each Condenser complete with Centrifugal Pump designed for total head of 30 feet.

Brickworks

In connection with the mines the Syndicate have installed an up to date brick making plant capable of producing 1,000 wire cut bricks per day. The plant comprises 1 Brickmaking Machine, Pan, etc.

2 Drying Sheds, and 1 four-department tunnel dryer.

4 Down Draught Kilns.

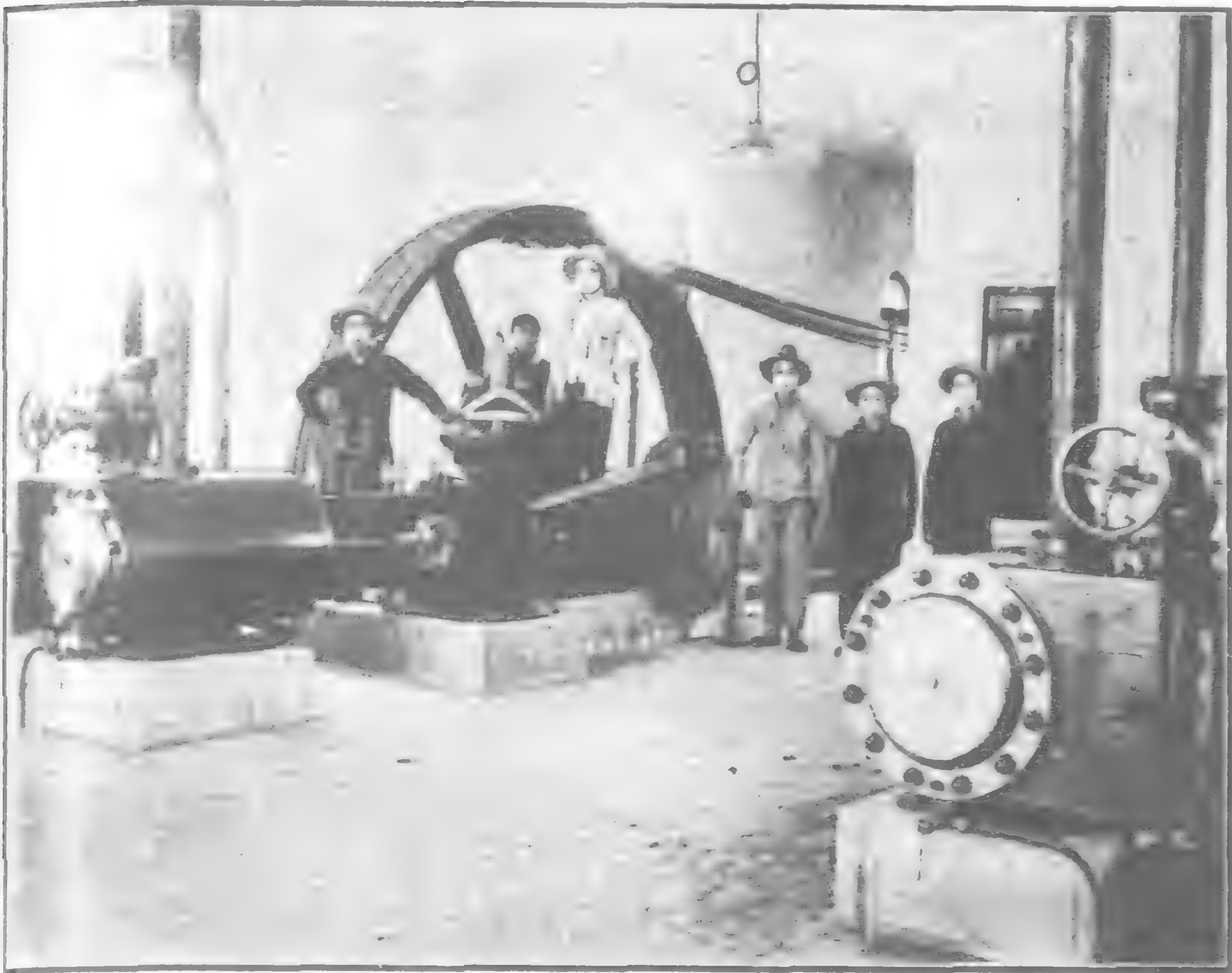
7 Chinese Kilns.

1 Kiln for Fire Clay Goods.

2 Lime Kilns.

The coal produced by the Syndicate is a semi-anthracite, and being practically smokeless is very suitable for industrial and marine purposes, but in this connection the best results are obtained when used in Boilers provided with suitable draught. The following is a result of a test recently made on a small battery consisting of 4 Babcock and Wilcox Boilers working together:—

Start of the Test	..	..	..	10 a. m.
End of the Test	..	..	..	4 p. m.
Duration	..	..	..	6 hours.
Kind of fuel used	..	..	..	No. 2 Cabbles.
Average observed pressure	..	..	..	100 lbs. p. sq. inch.
Temperature of Feed Water	..	..	..	78 F.
Temperature of Air outside	..	..	..	55 F.
Temperature of Air entering the boilers	..	..	..	62 F.
System of draught	..	..	..	Natural.
Force of draught in inch water	..	..	..	0.5
Average height of water level at starting	..	..	..	4"
Average height of water level at ending	..	..	..	4"
Total quantity of Coal fired	..	..	..	12600 lbs.
Quantity of Coal fired per hour	..	..	..	2100 lbs.



FAN ENGINE, NO. 5 PIT



SECTION OF POWER HOUSE

Quantity of coal fired per hour and per boiler	525 lbs.
Grate area of each boiler.	49 sq. feet.
Quantity of coal fired per hour and per sq. f. of grate in each boiler	10. 7 lbs.
Heating surface of each boiler	1797 sq. f.
Weight of coal burned per sq. f. of heating surface per hour in each boiler	0.29 lbs.
Total weight of ashes in the 4 ashpans	819 lbs.
Percentage of ashes	6.5 %
Total water evaporated in the 4 boilers	120,637 lbs.
Water evaporated per boiler	30,159 lbs.
Water evaporated per boiler per hour	5,026 lbs.
Water evaporated per sq. f. of heating surface and per hour in each boiler.	2.79 lbs.
Water evaporated per lb. of coal	9.57 lbs.
Water evaporated per lb. of coal reduced from and at 212 F. under atmospheric pressure	11.26 lbs.
(Factor of evaporation 1.177).	

The coal is also very suitable for Locomotives as will be seen from the following Test :—

Particulars of the Locomotive :—

Type	2-6-0 Mogul.
Weight of the Locomotive and Tender in working order	94 t. 171.
Heating Surface. Tubes 1294.2 Fire box 137.2 Total	1431.4 sq. f.
Grate Area	34 sq. f.
Capacity of Tank of Tender	3650 gallons.

Total distance of Test	100 Miles.
Time occupied for Trial	11 h. 30 minutes (30)
Weight of Coal burned	5,820 lbs.
Kind of Coal fired	No. 2 Cobbles.
Weight of water evaporated	39,367.4 lbs.
Weight of ashes from ashpan	918 lbs.
Weight of cinders from smoke box	84 lbs.
Percentage of ashes to coal burned	15. 7 %
(included in the weight of ashes is about 5 % of small coal under 1/2". owing to the shakes of the Locomotive working)	
Average pressure during the travel	145 lbs per sq."
Average temperature in smoke box	565 F.
Average draught in smoke box in inch water	0.4

Average Temperature of Feed water in Tender Tank	57.75 F.
Average Temperature of Feed Water in Injector	157 F.
Total water evaporated	39,367 lbs.
Weight of Coal burned per hour	506 lbs.
Weight of Coal burned per sq. f. of grate and per hour	14.8 lbs.
Weight of Coal burned p. sq. i. of heating Surface p.h.	0.35 lb.
Water evaporated per hour	3423 lbs.
Water evaporated per hour and per sq. i. of heating Surface	2.39 lbs.
Water evaporated per lb. Coal	6.76 lbs.
Factor of evaporation	1,207
Water evaporated per lb. Coal, reduced from and at 212 F. under atmospheric pressure	8,159 lbs.

The Syndicate have recently started an Exploitation Dept. and undertake contracts for Boring operations in connection with prospective Collieries. They possess a complete equipment of the latest Diamond Drilling Plant.

General

Labour is plentiful during the winter months, but in the summer difficulty is occasionally experienced in obtaining the necessary unskilled labour owing to the demand for labour in connection with the harvest.

From October to the end of April the climate in Honan is ideal. It is very dry and particularly healthy. The temperature is lower than that of England. The heat is rather intense in the months of July, August, and September.

The Syndicate employ a large Staff of Europeans at the Mines. They are all provided with foreign style bungalows, and facilities are afforded for recreation, such as cricket, football, tennis, golf, etc. A club building has been erected by the Syndicate for the use of the European Staff. The club is equipped with 2 Billiard Tables. There is also a Reading Room with Library. A well equipped Hospital is maintained by the Syndicate and a fully qualified Foreign Medical Officer resides at the Mines.

The Syndicate also have Offices and Depots in Tientsin, Peking, Shanghai, and Hankow.

In Tientsin the Syndicate have installed a small up-to-date Briquetting Plant for the purpose of making Ovoid Briquettes out of Anthracite Dust.

RESTORATION OF MONARCHY IN CHINA

The Revolt of Yunnan Province

Though no disorder of any kind had attended the elections and balloting on the monarchy question in China, reports, particularly from Japan, showed that it was certain that the Republicans would endeavour to galvanize into life a movement against the Government. Rumours began to circulate towards the end of December about the intentions of General Tsai Ao, formerly chief of the Land Measurement Bureau, who had been one of the most zealous supporters of the monarchical movement, and others. Before relating the subsequent proceedings of General Tsai Ao and his associates, it should be recorded that, following upon the bestowal upon the Vice-President of a principedom with the title Prince Wu Yi, a number of other honours were conferred. Hsu Shih-chang, Chao Erh-shun, Li Ching-hsi and Chang Chien were appointed Privy Councillors; military Governors Lung Chi-kuang, Chang Hsun, Feng Kuo-chang and Chiang Kuei-ti were created Dukes, while the military Governors of other provinces (including Tang Chi-yao, of Yunnan) were given marquisates. A number of Counts, Viscounts and Barons were also created. As Hsu Shih-chang (Secretary of State) had become a Privy Councillor, Lu Cheng-hsiang (Minister of Foreign Affairs) was appointed Secretary of State while continuing to act as Minister of Foreign Affairs.

Returning to General Tsai Ao, the first intimation that rebellion was brewing was given by a report that the Military Governors of two of the south-western provinces had telegraphed to Peking asking that the monarchy should be cancelled and that the promoters of the movement should be decapitated. It was soon learned that the provinces in question were Yunnan and Kweichow. The reports were at first disbelieved as Tang Chi-yao, the military Governor of Yunnan, had been most emphatic in urging the change in the form of government and had given earnest assurances that the people and troops of Yunnan were strongly in favour of the restoration of monarchy. It was not until December 28 that it became definitely known that a state of rebellion actually existed in Yunnan. On December 23 telegrams were received in Peking purporting to be signed by Tang Chi-yao and Civil Governor Jen Ko-cheng. As these documents are of historical interest we reproduce them, availing ourselves of the translations which appeared in the *Peking Gazette*, to which we are also indebted for translations of other documents which are given later.—

Republicans' First Telegram to Yuan Shih-kai

To the Great President: Since the question of *Kuo-ti* was raised consternation has seized the public mind; and on account of the interference of various Powers the spirit of the people has been more aroused. They have asked the question, "Who has invited the disaster, and brought upon us such great disgrace?" Some one must be responsible for the alien insults heaped on us.

We have learned that each day is given to rapid preparations for the Grand Ceremony; and it is now true that, internally, public opinion has been slighted, and externally occasions have been offered to foreigners to encroach on our rights. Our blood runs cold when we face the dangers at the door. Not once but twice hath the President taken the oath to observe and obey the Constitution and protect and maintain the Republic. The oath was sworn before Heaven and Earth; and it is on record in the hearts of millions of people and the words thereof still echo in the ears of the people of all nations. In the Classics it is said that "in dealing with the people of the country, faith is of the essence of great rule." Again it is written that "without faith a people cannot endure as a nation." How then can one rule the people when he "eats" his own words and tears his own oath? Principle has now been cast to the winds and the *Kuo-ti* has been changed. We know not how the country can be administered.

Since the suspension of the National Assembly and the revision of the Constitution, the powers of Government have been centred in one person, with the added freedom to do whatever seems meet without let or hindrance. If the Government were to use this power in order to reform the administration and consolidate the foundation of the Nation, there would be no fear of failure. For the whole country would submit to the measures of the Central Government. Thus there is not the least necessity to commit treason by changing the *Kuo-ti*.

Although the late decision of the Citizens' Representatives in favour of a monarchy and the request of the high local officials and the President's accession to the Throne have been represented as inspired by the unanimous will of the people, it is well known that the same have been the work of ignoble men whose bribery and intimidation have been sanctioned by the Authorities. Although inept efforts have been made to disguise the deceit, the same is unhidden to the eyes of the world.

Fortunately it is said that the President has from the very beginning maintained a calm attitude, speaking not his mind on the subject. It is now as easy to turn the tide as the reversing of the palm. It may be objected that if the "face" of the nation is not preserved in view of the interference of Foreign Powers, there will be great danger in future. But it must be observed that official declarations can only be made in accordance with the will of the people, the tendency of which can easily be ascertained by searching for the facts. If the will of the people that the country should be the common property of the Nation be obeyed and the idea of the President that a Dynasty is as cheap as a worn-out shoe is heeded, the latter has it in his power to loosen the string that suspends the bell just as much as the person who has hung it. If the wrong path is not forsaken, it is feared that as soon as the heart of the people is gone, the country will be broken to pieces and the dismemberment of the Nation will take place when alien pressure is applied against us. We who have hitherto received favours from the President and have received high appointment from him hereby offer our faithful advice in the spirit of men who are sailing in common in a boat that is in danger or of those who love sincerity and cherish the unbroken word. We hope that the President will, with courage, refuse to listen to the speech of evil-counsellors and heed the voice of conscience and of honour. We further hope that he will renew his promise to protect the Republic and openly swear that a monarchical system will never again appear.

Thus the heart of the people will be settled and the foundation of the Nation will be consolidated. Then by enlisting the services of sagacious colleagues in order to surmount the difficulties of the time and sweeping away all corruptions and beginning anew with the people, it may be that the welfare and interest of the Nation will be furthered. In sending this telegram our eyes are wet with tears knowing not what more to say. We respectfully await the order of the President with our troops under arms. (Signed) Tang Chi-yao and Jen Ko-cheng.

The Second Telegram

For the Perusal of the Great President:—In our humble opinion the reason why the people—Chinese and foreign—cannot excuse the President is because the movement for the change of *Kuo-ti* has been inspired and originated in Peking, and that the ring-leaders of the plot against the Min Kuo are all "bosom-men" of the President. The Chou An Hui, organised by Yang Tu and five other men, set the fire ablaze and the circular telegram sent by Chu Chi-chien and six other persons precipitated the destruction of the Republican structure. The President knew the bad deed was being done and yet he did nothing to arrest the same and to punish the evil-doers. The people, therefore, are suspicious. A mandate was issued on the 24th of the 11th month of the 3rd year in which it is affirmed: "Democracy and republicanism are laid down in the Constitutional Compact; and there is also a law relating to the punishment of those who spread sedition in order to disturb the minds of the people. If any one shall hereafter dare to advance strange doctrines and misconstrue the meaning of the Constitution, he will be punished severely in accordance with the law of sedition."

Yang Tu for having publicly organised the said Society and Chu Chi-chien for having secretly plotted by telegram are all principal offenders in the present flagrant case of sedition. As their crimes are obvious and the subject of abundant proof, we hereby ask the President to carry out at once the terms of the said mandate and publicly execute Yang Tu, Sun Yu-yun, Yen Fu, Liu Shih-pei, Li Hsieh-ho, Hu Ying, Chu Chi-chien, Tuan Chih-kuei, Chow Tze-chi, Liang Shih-yi, Chang Cheng-fang and Yuan Nai-kuan to the end that the whole nation may be pacified. Then, and not till then, will the world believe in the sincerity of the President, in his love for the country and his intention to abide by the law. All the troops and people here are in anger; and unless a substantial proof from the Central Authorities is forthcoming, guaranteeing the maintenance of the Republic, it will be impossible to suppress or pacify them. We await a reply within twenty-four hours. (Signed) Tang Chi-yao, Jen Ko-cheng, etc.

Telegrams of Remonstrance from the Government

Steps were immediately taken by the Government after the receipt of these telegrams to ascertain whether they were genuine and if so to impress upon the senders the utter inconsistency of their conduct. The State Department and Army General Headquarters dispatched a telegram in the following terms to Tang Chi-yao and Jen Ko-cheng.—

The question whether the telegrams dated the 23rd from Yunnan are genuine documents or not has still to be ascertained. But in order to avoid misunderstanding we wish to reply to the principal points raised as follows:—

(1) The fact that Japan has, together with Great Britain, France, Russia and another Government, tendered advice in a friendly spirit to China, requesting the postponement of the monarchical movement for fear that a hurried change might cause internal disturbance which would damage the commerce, life and property of their nationals—but with the distinct assurance that they have had no wish to interfere with our internal affairs—is not without precedent in the history of diplomacy. This, together with their declaration of “watchful waiting” may be regarded as in the nature of approval; and recognition is in a fair way of being accorded. There is, therefore, no question of interference or disgrace at issue. How can any one fasten any blame on the Government on such a pretext, seeing that the advice was a friendly act of the friendly Powers? On the other hand the responsibility must fall on those who consider such a friendly act as an act of intervention and thus cast an insult on the country.

(2) The Mandate issued on the 11th inst. contains the following passage: “Keeping faith is of primary importance in connexion with the administration and protection of a country. When the Republic was first established I, the Great President, first took an oath before the Senate, promising to do my utmost to glorify the Republic. If I should set up an Imperial system for myself I shall be violating my own oath, an accusation which I shall not be able to explain. I, therefore, request that another person be designated as the Emperor.”

The Tsan Cheng Yuan, in the capacity of the principal representatives, then replied that the taking of the oath was simply a formal undertaking by the Chief Executive of the Republic, registered strictly in his capacity as such Chief Executive, which office is itself based on the choice of the whole body of the people. The Chief Executive should follow the dictates of the people. If the people are for the Republic then the oath is valid, but if the people are for a constitutional monarchy then the validity is changed thereby. Now the people are tired of the Republic and desire to have a monarchy. With the change of the form of State the position of Chief Executive no longer exists; hence the oath becomes null and void. All these things have been done by the free choice of the people and therefore have nothing to do with the Chief Executive, etc. This explanation has been approved by lawyers both Chinese and foreign. How then can this fact be manipulated in order to assign blame arbitrarily?

(3) The change of Kuo-ti recently carried out was made by the unanimous decision of the officials and people according to legal methods. The unanimity of the will of the people can be seen through the fact that there was not a single dissenting voice. Even up till this day telegrams from military and civil persons urging [the President] to ascend the Throne reach Peking by the score every day. The shouts of joy and congratulations are as irresistible as the force of the incoming tide. How could such manifestations take place unless the change has been made by the free choice of the people themselves? Could any attempt at inducement or coercion have been so universally successful? Even Chiang Chun Tang and Governor Jen have twice sent telegrams urging the accession to the Throne. Can it be said that the Chiang Chun and Governor were induced or coerced into doing so? Can it be said that all the representatives of the province of Yunnan were induced or coerced by the said Chiang Chun and Governor? Yet false accusations are invented at your sweet will to cast a slur on the whole body of officials and people of the country. It is, however, impossible to close the eyes and ears of the world by the unreasonable and deliberately distorted views of a small number of people.

The Question of Punishment

(4) The change of the form of State was first raised by the majority of the people and merchants as well as by the military officers. The movement, though carried by an under-current, was pushed to the utmost because of the object lesson to be learned from the history of Mexico. It is the natural duty of every one to work for peace; and unless he be an enemy to the country who would oppose such an undertaking? All the first advocates were prompted by one and the same mind. Even Chiang Chun, Tsai Sung-po [General Tsai Ao] signed with his own hand the document which called for the formation of a constitutional monarchy on the 25th of the 8th month, together with other high military authorities. Is this military officer to be punished as his own handwriting can be produced even now?

(5) The sovereign rights of the Republic were reposed in the citizens. When the officials requested the Chief Executive to change the form of State the latter was firm and declined; but when the question was settled legally by the representatives of the citizens, even the Chief Executive, although his position was one of high dignity, could do nothing to oppose it, still less to cancel it. Yet this small number of people wish to cancel the decision of the whole body of the representatives. Never in history has such an illegal action been taken in any of the countries of the world. To play with the affairs of State like this is only to make themselves a laughing-stock.

In short at this time of trouble when danger lurks in every corner round our country and when all our attention and energy are needed to cope with internal and external affairs, all patriots at heart should discard all personal feelings or prejudice and devote their whole body and soul for the strengthening of the country. If any does not agree with the policy of others, he has plenty of ground to discuss matters in a sober way. If any one should only follow his own personal views and resort to dangerous actions without due consideration, he will be inviting intervention,

when there is no need for intervention, and causing foreign derision when there is no occasion for derision, and bringing humiliation when there is no reason to suffer humiliation. What shall the world and future generations say about one who should overturn the country and act the catspaw of the waiting tiger?

What surprises us is the demand for an answer within a time-limit and the statement that you are waiting for it with troops under you in readiness. Such contempt for superior authority and disregard for law is simply destructive of all obedience. If all the troops and people of Yunnan should follow suit how would the superior officers control their men; danger would perhaps spring up at your very elbows. Should a wise man never think of this? Messrs. Tang and Jen are requested to give the names of the senders of the said telegrams. We have said all we wish to say and leave it to you gentlemen to decide.

Republicans' Inconsistency Exposed

A second telegram was sent by the State Department personally addressed to Tang Chi-yao and Jen Ko-cheng to the following effect.—

Both of the telegrams previously despatched from your place in connexion with the monarchical change were for the Great President's early accession to the Throne and couched in earnest terms, stating that “all the military and civil officials as well as the gentry and merchants were unanimously happy and jubilant over the matter.” The other telegram reads: “The general assembly of the representatives of the citizens are unanimously for a constitutional monarchy, and the Great President has been designated as the new Emperor of the Empire of Chung Hua; a fact which shows the united hearts of the people in every part of the country. Yet the Great President has officially issued a mandate refusing modestly to assume the high title. So far as the Great President is concerned it becomes him to make manifest his modesty but when the people are earnestly longing for an efficient administration, small details of formality should not be strictly adhered to. This is why Chi-yao and others have repeatedly petitioned in earnest tone. Ever since the establishment of the Republic the desperadoes have been meddling with the administration and the people have been cast into sufferings as hot as fire and as deep as water. Had it not been for our Great President, who courageously bore the burden of the dangerous situation, no one could tell into what a state of dismemberment this country would have fallen. Although by the divine valour of the Great President danger has been turned into peace, yet it is only a temporary achievement and not a measure for permanent peace. If a sovereign ruler be not selected at this time so that the inheritance may go on for myriads of years, not only the earnest desire of the small people may thereby be disappointed but those who are unduly ambitious may have chances to disturb the prevailing peace which of course is not the wish of the Great President, whose intention is to save the people. Some may say that the change for the monarchy may give rise to excuses for the rebels to raise trouble or for foreigners to take advantage of the situation. It must be remembered, however, that the rebels are always for rebellion. If they wish to rebel, the absence of a monarchical change will not rob them of an excuse. What is necessary is that the provinces should take strict precautions. As to the change of the form of State to suit the conditions of the country and the habits of the people, the same is a matter of internal reform and has therefore nothing to do with foreign countries. Besides, all the foreign Powers are on friendly terms with China and it is not likely that they will withhold recognition.

“Now with peace and order maintained in every part of the country, and the life and property of Chinese and foreign subjects under safe protection, no chance can be better than this when Heaven gives and the people submit. We humbly hope that the Throne will soon be ascended and the popular wish of the people satisfied with a view to bring unbounded blessings to the State and give satisfaction to the mass of longing people.”

Another telegram despatched from Yunnan on the 12th of the 10th Month to the Headquarters of the Generalissimo said: “Ever since the question of the change of Kuo-ti was first raised the people, military and civil inside and outside of Peking, have been eagerly looking for the day of fulfilment, hoping that thereby permanent peace may be secured. The troops of Yunnan have been all along unquestionably obedient, and with regard to this question of Kuo-ti no trouble may be feared as they fully understand the situation. The political, educational, mercantile and other classes are all longing for the early settlement of the great policy. Only newspapers are making some criticisms but as they express the views of a few ignorant people, they are not sufficient to represent public opinion or to cause any obstruction. We therefore earnestly beg that you, on our behalf, lay the matter before the Master, asking him to yield the wish of the people, to take the step without hesitation and to put the change into effect so that the expectation of the military and civil people of the whole country may thus be realised. Undesirable developments may occur if the matter is delayed any longer and the fundamental policy of the State may thus be inconvenienced. This is certainly not the original intention of the Chief Executive who desires to maintain the general situation. At this time when everything hangs by a hair we cannot remain silent so long as we are aware of the facts. We respectfully request that the Master be secretly informed of these, etc.”

On the 18th and 21st of the 12th month Chiang Chun Tang sent two more telegrams to the Headquarters of the Generalissimo to the following effect:

“During the last ten days the rebels have been placing agents in the Annam part of the Yunnan province and energetically working for a

rebellion. Fortunately Chi-yao has taken careful precautions and the troops are all quiet. No disturbance need be feared."

The other message says: "The grace which has been received by Chi-yao has permeated his flesh and bones, and he has always looked upon himself as the defender of the territory and the bosom man of the Chief Executive. As Yunnan is his motherland it is his natural duty to maintain order therein. He has therefore been very strict in taking the necessary precautions against the rebels. Judging by the present situation there can certainly be no rebellion."

The telegram to the General Staff was to the following effect: "All the military officers of the middle and low ranks are all well under control. As they have always been on cordial terms with their commander they are certainly not to be influenced by the rebels. As to the officers of higher rank they all understand the righteous principles as Chi-yao himself; they can be safely relied upon to strengthen the hands of the State with one heart and soul. Taking the general situation in view, all the reliable troops, with the exception of the two battalions which have been sent to the borders to capture robbers and assist in the uprooting of the opium plants, are all concentrated in the capital as a garrison. Chi-yao is determined to carry out his policy and is taking all the necessary precautions. So long as his own life is not endangered, he does not fear any untoward developments."

In conclusion, the Cheng Shih T'ang wires:—Yet in spite of all these assurances the text of the latest telegram is very curious in nature. Only an interval of three days and the turn has taken the opposite direction with a difference of a thousand li. This State Department therefore cannot believe that your office can be capable of sending a telegram so utterly contrary in sentiment. It is therefore presumed that it was forged by some one else. We cannot take on ourselves the responsibility of submitting such a telegram. Send another telegram, the original copy of which should bear your seal and personal signature, immediately to Peking so that we may submit the same [to the Ta Huang Ti.]

Military preparations were made immediately the telegrams were received, and strong forces of northern troops were hurried southward. On December 28 a meeting of the Tsan Chen Yuan was held at which Mr. Liang Shih-yi brought up the question of the situation in Yunnan. It had been decided to ask the Foreign Office for an explicit statement in regard to the advice given by the five Entente Powers and Mr. Tsao Ju-lin, Vice-Minister of Foreign Affairs, attended for this purpose. He described the terms in which the advice was given and the reply made in which Mr. Lu Cheng-hsiang explained that the change in the form of state was being carried out in strict accordance with the Constitutional Compact in which sovereignty was vested in the people. As the change was first requested by the people the Government could do nothing but yield to their wishes. On November 11 a more formal reply was sent to each of the Ministers of the advising Powers reiterating that the movement was a popular one and that the Government had abstained from supporting or checking it. Messages had been received from each of the provinces in reply to a specific inquiry stating that the authorities could guarantee that there would be no disturbance or unrest. The provincial authorities urged the Government to restore the monarchical system. On December 15 the Ministers of the five Powers repeated their advice and the Minister of Foreign Affairs had replied that although the monarchical form of government had not yet been formally restored, the balloting had been unanimously in favour of the change being made. It was the hope of the Government that the Powers would respect the sovereignty of China by accepting the declaration made by the Government in response to the previous advice. The Ministers assured Mr. Lu that there was no desire on their part to interfere with the internal affairs of China. After Mr. Tsao had made the foregoing statement it was decided to send a circular telegram to the provinces informing them of the real facts of the case and explaining that the Powers that had given advice had explicitly disclaimed any desire to interfere with China's domestic affairs.

A Memorial was drawn up for submission to the Emperor-elect. This document, which is too long to quote textually, charged Tang Chi-yao and Jen Ko-cheng with three grave crimes: (1) Arousing ill-feeling between Chinese and foreigners; (2) Acting in opposition to the will of the people; (3) Insulting the Executive Chief of the country. They had stated that the spirit of the people was aroused because of the "interference" of foreign Powers, and had suggested that these Powers were promised special privileges in return for a promise of recognition. Both statements were shown to be entirely untrue, the foreign Powers disclaimed any wish to interfere, and the Chinese Government had promised no concessions in return for recognition. The circulation of such reports was

calculated to cause diplomatic friction with the foreign Powers. In regard to the second count against these men the Memorial said that they alleged that the decision to change the form of government was effected either by monetary inducements or the pressure of influence. But both these men had themselves reported that the voting was the expression of the sincere wish of the people of Yunnan. No confidence could be placed in the statements of men who so flatly contradicted themselves. As a fact the elections were conducted fairly and no compulsion was exercised, and the people voted unanimously for a constitutional monarchy. Consequently Tang and Jen were opposing the will of the people. In the third place in their circular telegram Tang and Jen had used disrespectful expressions in referring to the Chief Executive, and accused him of violating his oath. In reality the oath taken as President was to submit to the will of the people. The restoration of monarchy was the will of the people and owing to their decision the Chief Executive was keeping his oath. The Memorial concluded: "As Tang Chi-yao and Jen Ko-cheng are guilty of the above three great crimes, the same should, therefore, be publicly proclaimed, and punitive expeditions should immediately be despatched to annihilate the violent and obstinate so that foundations of the Empire may be consolidated."

In response a Mandate was issued which quoted the Memorial in full and continued:—

In addition to the foregoing Memorial of the acting Li Fa Yuan, various telegrams of the Chiang Chun, Military Inspectors, Governors, Lieutenant-Generals and Defence Commissioners of the provinces and the great Commanders of the troops of various localities also urge that punishment should be meted out to Tang Chi-yao, Jen Ko-cheng and Tsai Ao, who sent circular telegrams everywhere to agitate for rebellion, etc. Tang Chi-yao and Jen Ko-cheng twice sent us in earnest terms petitions urging us to ascend the Throne quickly, and several telegrams were received from them before the 21st day, assuring us that although there were secret intrigues and agitations of rebels in their province no trouble was expected because strict precautions were adopted, etc. But lo, before a few days have elapsed, they have changed their original intentions.

When the Kuo-ti problem was raised Tsai Ao gathered together high military officials in Peking and put his signature before others on a petition craving the introduction of a Constitutional Monarchy. Later on he obtained leave of absence to proceed to a foreign country to receive medical treatment. He has, however, secretly proceeded to Yunnan to start an agitation there. Indeed we never imagined that he would become so faithless. As Tang Chi-yao and Jen Ko-cheng are responsible for the defence of their province, they must be blamed for the failure to maintain the situation of the province of Yunnan, no matter whether the telegram was circulated under the pressure of the influence of others or by forgery of others.

Tang Chi-yao, the Kaiwu Chiang Chun, and Jen Ko-cheng, the Governor, are hereby deprived of their offices, ranks, titles of nobility, and decorations, pending investigation and punishment.

As Tsai Ao has kept secret his whereabouts and has not been careful to avoid suspicions, he is hereby deprived of his office, rank, Grand Order of Merit and Decoration; and the local officials of the said province are hereby ordered to compel him to come to Peking to await investigation and punishment.

It is interesting to record that more was known of the movements of General Tsai Ao than he probably guessed. As has been already stated he was amongst those who were most enthusiastically in favour of the reversion to monarchy. It is supposed, however, that later he came under the influence of some Republicans, and was credulous enough to believe their statements that the Chinese Government had promised special concessions to the Powers which had advised a postponement of the change in the system of government. He went to Japan and was there informed by a Republican fugitive that it was true that these special privileges had been promised. Apparently convinced of the truth of the fabrication Tsai Ao went to Yunnan and stirred up the troops who were formerly under his command to revolt. Tsai Ao headed the revolution in Yunnan in 1911 and has considerable influence in the province. It is supposed that he coerced Tang Chi-yao, who is described as a man of weak character, into associating himself with the rebellion.

As was inevitable all kinds of rumours were current in regard to the support that the rebels were to receive. For example the loyalty of Generals Chang Hsun and Feng Ko-chang was said to be doubtful, but they both immediately issued proclamations denouncing the rebels in the severest terms. The report of Kweichow having joined Yunnan was shown to be incorrect. Kwantung and Kwangsi remained quiet, and none

of the other provinces evinced any disposition to join the rebellion.

The leaders in Yunnan deemed it necessary to explain their action and they consequently issued the following manifesto.

Republican Leaders' Manifesto

A historical retrospect takes us back to the last days of the Tsing dynasty, when abuse of the administrative power thrust our country into a precarious state. Realising the necessity of fighting for national existence, our people raised the Banner of Righteousness under which the Republic was established. For the sake of national unity, Yuan was elected President; and during the first year of Min Kuo, the whole country was so eager for peace and progress that patriots sacrificed everything in order to assist Yuan. Was it because they were so attached to him that they had chosen so to act? Nay, it was because they wished—through him—to save the imperilled country. Yet in spite of the sacred trust reposed in him, he has failed to do aught that is great and abiding during the past four years. For the purpose of seizing power and strengthening his position, he has unceasingly played with political parties in his "soft-handed" manner, crushed the National Assembly, banished by mean methods those who were opposed to him, prostituted public opinion either by coercion or inducement, and employed and directed ignoble men whom he has encouraged with rewards and privileges.

Since the day he was placed in his position of trust, he has contracted upwards of 200,000,000 dollars in foreign loans and yet not a single item of expenditure he dares truly to disclose to the public. On the outbreak of the war in Europe, the resource of foreign loans was cut off. He then devoted his attention to gathering in all he could within the borders of China. Unreasonable taxes have been levied, people have been forced to subscribe to Domestic Loans, and excessive fiscal burdens have been imposed on the country. In addition, he has encouraged the extortion of the tax-gatherers who are offered high rewards in their work of impoverishing the people. His disregard of the sufferings of the people is shown by the fact that he has been "fishing them up by drying up the lakes." Thus, the people within the Confines of the Four Seas have become so financially desperate that they are pressed by poverty. Where has the money, thus "scraped up," gone to? It has been spent for "capturing the minds of scholars and officials" and guarding against "indoor thieves." As far as the real affairs of the State are concerned, nothing has been done for the people. We have never heard of Yuan doing anything to strengthen the national defence or making any attempt at preparing for the international struggle of finance. What he has actually done is to invite the derision of Friendly Powers by the exercise of short-sighted cunning and vain tricks. No wonder that we have been defeated at every turn in matters diplomatic. Internally, he has never paid any respect to the welfare of the provinces and local centres or sympathised with the sufferings of the people. Robbers have been over-running the country, yet he has failed to suppress them. People have been unlawfully harassed, yet he has failed to deliver them. Education has been neglected, while the restoration of old institutions has been advocated. All the money-making industries have been monopolised by the officials and turned into official enterprises. The policy of the Ch'in dynasty to "keep the people in ignorance" has been followed and the doctrine of Hung-yang, who affirmed that the people should be made to pay all expenses of the sovereign no matter what the conditions be, has been obeyed to the letter. Laws and regulations are as numerous as the hair on the back of a cow; but an order given in the morning is often changed in the evening. If the law-maker himself can break the law as often as he likes, how can the people have any definite principle to follow?

The spirit of law, therefore, has been destroyed. In the employment of men, those are accepted who are unscrupulous and cunning. Patriots have been shunned and capable men have been placed under suspicion. If one is as pliable as a weak concubine, he may expect a speedy rise to high position; but one risks his life, if he shows that he is "stubborn in the right." Thus manly spirit has been smothered and the sense of self-respect abased to the dust. The vitality of the nation has thus been drained. These things are known and seen by myriads of eyes; and, verily, they are worse than the evil deeds of the Tsing dynasty. We, citizens, holding that it was not well to attack the administration and excusing Yuan in the belief that it was not an easy task to establish an efficient Government, drank the bitterness and bore the pain without a murmur, hoping that a day might yield us good results.

For several years we have, therefore, hoped uninfluenced by prejudice. We were beginning to believe that as internal disturbances had been suppressed and power had been centred in a single hand and pressure from foreign countries was relaxing Yuan would fulfil his repeated avowals of faithfulness to the nation and, by eating bitterness and living a life of real action, save our people. Who could have imagined that he would so disregard all else except to seize the Imperial Vessels and indulge in the pleasure of bearing an Imperial title? Who could have imagined that he would have broken the oath uttered by his own lips and violated the Constitutional Compact which he made with the people? Internally he has deceived the people; and externally he has been false to the Foreign Powers. He gave inspiration to his "hunting dogs and eagle" and spread his "teeth and paws" [conspirators] throughout the land to the end of coercing the people and compelling them to obey his orders. To the heart-to-heart advice of good men he has shut his ears, refusing to listen. And any expression of real public opinion is taken as proof of sedition. Consequently the fires of hatred have been fanned, while the general public are all in a state of unrest. Farmers have forsaken their fields and merchants have ceased to trade. Travellers are deprived of their privilege

of freedom of movement, while scholars are compelled to satisfy themselves by sitting in the "wilderness." Officials, who have regard for morality, have left the Government one after the other, while crouching desperadoes and ambitious military men have been watching for a chance to rise.

Matters have gone so far that the Foreign Powers have been interfering with our internal affairs and three times they have given us "advice." Besides making the declaration that they would maintain strict vigilance, it is also said that they are making preparations "for free action" in the matter. To confess that the situation has necessitated the interference of the Foreign Powers in our internal affairs is indeed a humiliation, great and grievous. Who then is responsible for our being in such a position? Yet he that is responsible still pursues his iniquities and is working to realise his insatiable ambition. If he should happen to have so much self-respect to refrain from offering a portion of the land to another country and styling himself as the latter's adopted son as in the case of Shih Chin, he will follow, be assured, in the footsteps of the Tsing dynasty and encourage people like the Boxers to drive out foreigners. If he should adopt any one of these alternative courses, China would be thrown into the bottomless abyss—without hope of deliverance.

Has not the ancient Sage said that "a traitor is a criminal punishable by any one?" How then can we let pass the high treason committed by one who has been placed in the position of Chief Executive by the citizens? China may be said to be dead and buried, if nothing is done to punish such an one, whose crimes are plain and whose secret transaction in high treason is about to be disclosed. Behold, can we hope to live if we suffer our country to perish? Then, is it an easy matter to stand as an independent nation in this world? Even a country whose people are united in their efforts to improve their administration may be in danger of becoming a prey of other countries if their progress should be delayed for a moment; how much more dangerous then is a country which endeavours to sail up the stream in a mediaeval ship with a pilot of Asiatic cunning who has no other aim but to usurp power and position? Any man of common wisdom must know it to be a hopeless task to expect the consolidation of the country under the direction of such a man.

Since Yuan has shown himself to be entirely false to his own duties and ignorant of the general tendency of the world, and since a period of several years' experiment has resulted in a mass of criminal evils, blackening our history, we can no more be tolerant towards him. Even if he had in him sufficient regard for the mere name of Republic to lead him to abide by the existing form of State, there would be no way by which his methods could now be controlled; since he has seized power to do as he pleases. The consequence of his continuance in power would be that the vitality of the country would be sapped until a great disturbance breaks out and the country disappears in the night of history. Is there any hope of one who in these hours of imminent peril seeks to satisfy his unholy desire for Imperialism? Such an one is like a son, who, watching his parents in agony on their sick-bed, puts them to the sword.

During the last few months—as a result of terror struck into the mind of the people—many messages have been sent to the Central Government asking Yuan to ascend the Throne. It is pretended that these messages are a real expression of the will of the people; and the same are used to invite public admiration and to serve hereafter to cover his guilt and mislead the verdict of history. In reality, however, the reason why the high officials have submissively yielded to the whim of this one man is because either they have no wish to set the country in a revolution or they wish to bide their time, while outwardly and temporarily acquiescing in his doing. Can we expect them all willingly to submit themselves to the humiliation of being traitors or becoming distraught out of love for this enemy of the Republic? We who write this have been either holding office in the Central Government or officiating in the provinces in responsible positions. In position we are already honored beyond merits: we therefore do not hope to gain anything more so far as our individual interests are concerned. Nor are we deliberately inimical to Yuan, who has been our colleague for many years. The reason which prompts us in our action is the imminent danger to the country whose life hangs, as it were, by a single hair. The country's welfare is the responsibility of every individual; and for this reason we have in tears repeatedly tendered our sincere advice in the hope that the situation may be saved at the eleventh hour. Unfortunately the individual in question has shown no sign of repentance and thus the millions of people remain in uncertainty as to their future.

In accordance with the provisions of the Constitutional Compact, we now proclaim his crimes and despatch a punitive expedition against the Traitor with a view that peace may soon be restored to this country. In raising the Banner of Righteousness we have four aims in view:

1. To do our utmost in order to maintain the Republic and to see that Imperialism shall never rear its head again in China;
2. To limit the power of the Central Government so that the people of each individual locality (province) may have their freedom of development;
3. To establish a real and genuine constitution in accordance with the tendency of the world; and
4. To strengthen diplomatic intercourse by following a policy of sincerity so that China's standing among the world powers may thereby be raised.

These four aims shall direct our movements and actions in future. As to failure or success we leave it to the will of Heaven; for we believe Heaven will bless Chung Kuo if we follow the dictates of our conscience and the call of righteousness. We hereby open our hearts to the world and send this call to the whole country.

(Signed) Tang Chi-yao, Jen Ko-cheng and Liu Hsien-shih.

They also issued a manifesto to the foreign Powers, which was couched in the following terms.—

Manifesto to Foreign Powers

Manifesto from the Yunnan Military Government of the Punitive Army Representing Republican China against high treason to the Friendly Powers, greeting: It is the bounden duty of every nation in this world to act in conformity with the principles of fairness and civilization in order that the people may show their good qualities and perform their part towards the uplifting of mankind. Harmonious co-operation between China and the foreign countries as well as that between governor and governed must be built upon the solid foundation of sincerity and fairness. During the last years of the Tsing Dynasty the misrule of the country was in direct contravention of the modern principles of government; and in consequence our citizens inaugurated a new regime and established the present republican form of government.

Yuan Shih-k'ai professed his attachment to the new government with the selfish object of advancing himself to the office of President. Twice upon accepting the office he swore before the people of China and the foreign nations that he would be faithful to the Republic and that he would strictly observe the constitution. Notwithstanding this, he has during his administration and on divers occasions set the constitution at naught; and had not his despotic rule endangered the very existence of the state, our people would have borne it with patience in order to see the result of his administration.

But during the past four years he has exercised his powers in the most arbitrary manner, and has had recourse to vile intrigues and most unscrupulous methods with the result that public opinion has been suppressed and good and peaceful citizens put to death. Indeed, his abuse of power has even gone to the extent of tampering with the conscience of the entire people. If we examine the results of his administration, we find that he has sucked out the blood of the people and has rendered their lives miserable for the purpose of gratifying his tyrannical ambitions. Should this state of things be suffered to continue for any length of time, no trace of humanity will be left in China. Moreover, his policy towards the foreign powers has been one of deceit and trickery, in consequence of which our country has entirely lost her prestige in the family of nations.

A great civil commotion has become inevitable which will give cause for anxiety to the friendly powers. Instead of repenting of his crimes Yuan Shih-k'ai has now even dared to violate his oath of office; he has surrounded himself with partisans; he has deliberately misrepresented the people's will and has made himself emperor, overawing the people on the one hand and imposing upon the foreign nations on the other. He has been advised in vain to follow the path of sincerity and righteousness, and every means of making him abide by the constitution has been tried without result. This Military Government cannot but look with commiseration upon the destruction of human principles and the end of our national existence, and has therefore solemnly resolved to mobilize all its forces to punish the traitor who has rendered himself guilty of violating his oath of office, setting the constitution at naught, of bringing disaster to the people, and of usurping the powers of government. All patriotic citizens, whether Northerners, and all military and civil officials, whether they belong to the Moderate or the Radical Party, have agreed after mutual consultation to proclaim the justice of our cause.

Now that we have been forced to take up arms to defend and preserve the Chung Hua Republic to which all official recognition has been accorded by all the friendly powers, we earnestly hope that they will have pity on our plight, recognize our cause, and appreciate the justice of our acts. We do hereby publicly declare that all treaties and agreements concluded with the friendly powers prior to the date of the proclamation of our righteous cause against high treason, to wit, the month of December in the fourth year of the Republic of China, shall continue to have full force and effect, and that within the jurisdiction of our Army we shall assume responsibility for the protection of foreign lives, commerce, and missions as well as for the due performance of all treaty obligations. All foreign relations shall henceforth be conducted between the representatives of this Military Government specially authorized in that behalf and the foreign ministers and consuls.

This Military Government further declares before Heaven and Earth that from and after this date it will do everything within its power to govern the country in harmony with the principles of civilization, so that our people may enjoy real blessings of republicanism; and will also conduct our foreign policy with frankness and sincerity, so that our relations with the friendly powers may become closer and more amicable. Heaven witnesseth this our solemn declaration.

Yunnanfu, December, 1915.

The first Mandate issued by the Emperor-elect gave the Republican leaders a chance of withdrawing from the situation in which they had placed themselves without incurring serious consequences. As the opportunity was not embraced a second edict was issued on January 5, as follows:—

Some time ago the Tsan Cheng Yuan in its capacity of the Acting Li Fa Yuan sent a memorial to the Throne reporting that Tang Chi-yao and Jen Ko-cheng [the Chiang Chun and Civil Governor of Yunnan respectively], rebelled with their troops, and requesting that a punitive expedition be sent to punish them for their crimes, etc. Again telegrams have also been received from Chiang Chuns and Governors of various provinces stating that Tsai Ao and others have despatched a circular

telegram to them agitating for rebellion, and requesting that they be punished, etc. Recently we thought that there were some special circumstances, and a mandate therefore was issued depriving Tang Chi-yao, Jen Ko-cheng and Tsai Ao of their respective ranks and offices pending investigation and trial. Now we are in possession of reports from various localities on the frontier, advising us that Tsai Ao some time ago proceeded secretly with rebel accomplices to Yunnan where he enticed and coerced the chief officials and a portion of troops in that province to rebel against the Central Government. They have destroyed the unity of the nation, declared independence and despatched troops to invade Szechuan. Those who opposed the seditious plot have been murdered, and the rebels have assumed authority and appointed officials. The people in the province have planned to oppose them, but on account of the rebel influence they have had to shed secret tears and remained silent. These rebels have deliberately put forth lies and rumours which have spread to various localities. They say that such and such provinces have joined them, and that a certain Foreign Power had secret designs against the nation, etc. They try to deceive the people and create international ill-feelings. All these rumours and mis-statements are without foundation. It must be pointed out that the troops and people of the provinces are obedient to the orders of the Central Government and willing to maintain and assist the Government; and that all friendly nations, being anxious for the peace and order of the country, have maintained a friendly attitude towards us and there is no room left for the rebel tang to make misrepresentations.

When there were signs of trouble in Yunnan, the Central Government and the high officials of the provinces sent telegrams to the rebels giving them advice to desist from their plots. Piles of documents were sent to them in earnest terms to persuade them, but as the mind of the rebels was fixed they gave no ear to the advice. They, a handful of wicked men, have dared to defy openly the Will of the People as expressed in the Law lately passed by the People of this Nation. They have disregarded the proper decisions of the Government and the faithful advice of their colleagues. They are heartless and extremely mad. Some of these rebels were the promoters of the change of the Kuo-ti, while others were men who repeatedly sent in petitions requesting the accession to the Throne. But in a few days' time they have completely changed their ideas. Their faithlessness has indeed defied the power of description. No doubt, in the beginning of every Dynasty, there have been wicked men of dangerous mind, trying to raise rebellion under some pretext; but we have not had any previous case of wickedness, faithlessness and seditious nature like that shown by these rebels. Originally there were not the least seditious desires among the people of Yunnan, and most of the troops understood the righteous cause.

Moreover, it must be observed that Yunnan is a most indigent province and the people have found it difficult to obtain means of livelihood. There is only a number of about 10,000 troops in the province, whose monthly pay has been a constantly difficult problem to solve; and we have no need to express any anxiety for the situation as the rebellion is sure to end in failure. In consideration of the condition of the people and troops of Yunnan, the Central Government has not the least desire to send troops to suppress the rebellion; but should we allow these rebels, who trust in their geographical advantage and the distance from the Central Government, to have their own way and continue to occupy the territory, my people there will be afflicted, the neighboring provinces will be affected, the general situation will become critical and occasions will be offered to foreigners for interference. We have considered over carefully the various aspects of the question, and it is impossible to tolerate them and so set aside justice and the law of this nation. The Chiang Chuns and Governors of the various provinces are hereby ordered to exercise strict vigilance in devising means for defence and for suppression work. Tsao Kun, the Huwei Chiang Chun, is hereby ordered to proceed with his troops to Yunnan, and to station them at strategic points pending orders for operation. Only those few who are promoters of the rebellion will be held responsible by the Central Government for their crimes, and all those who have been forced or coerced to follow the rebels shall not be punished provided that they repent of their errors. Those who hold right principle from beginning to end without following the rebels shall be rewarded. As most of the inhabitants of Yunnan province are innocent, measures should be taken to give them proper relief and they should not be allowed to lose their occupation, etc. Thus my real idea regarding the punishment of crime and the pacification of the people will be made manifest.

Another Mandate was simultaneously issued in which the Emperor-elect explained his own position. He ridiculed the idea that the attainment of Imperial power was a source of satisfaction to him; it burdened him with enormous responsibilities. However he had bowed to the will of the people. The change in the form of government was made with the hope of securing good government and permanent peace. The Mandate concludes.—

However, men like Tsai Ao and others, whose hearts have been burning with desires for privileges, have purposely spread rumours to agitate the people. They are not ignorant of the poor condition of the people and the difficult situation of the country; and yet they have ventured to realise their great desires, hoping for success. They care nothing if the people be drawn into misery or the nation be destroyed. But they have failed to see that if the nation should perish what would be the good of contending for authority and privileges. The people of the country have long ago foreseen the action of these rebels. Fortunately as their plots have been revealed at an early date, it is easy to suppress them at any time.

The officials and people of various provinces have now declared unanimously, the Citizens' Representatives of the country have already decided by unanimous votes that the form of the State should be a Constitutional Monarchy, and that they should all submit to one Supreme Chief; therefore the fundamental Plan of the Government should never be changed at any time. There is now no room left for the discussion of the problem. We hereby request that the accession to the Throne should take place soon. Destroy the rebels quickly, as we are all filled with righteous indignation, etc. Although there are tens of thousands of tongues, the same thing has been advocated. As the people of the country have recommended me, a man of "thin virtue," and the Generals and Officials have honoured me, how dare I hesitate any more and bring disaster upon the whole country?

Should there be any who becomes a leader of rebels, I will deal with him according to law so as to avenge the people. The Chief Civil and Military officials of the various provinces are hereby instructed to issue strict proclamations for the plain information of the people. The latter should be taught to distinguish the right and the wrong causes; and to love their life and family so that they will not be misled by rebels and become involved in knavish plots. The high officials of various provinces, who are able to preserve order and tranquillity in their respective localities, and military men, who fully understand the righteous cause, are responsible for the protection of their respective localities; and it is hoped that they will encourage one another in a sense of patriotism and perform their duties satisfactorily. Thus my heart to regard the people as if they have been wounded, and my desire to impress the foregoing in mind of the people by repeated warnings, will be made manifest.

At a session of the Council of State held on January 7 a petition asking the Emperor to fix a definite date for his formal enthronement was unanimously adopted. At the same session the recommendation telegraphed by Mr. Lung Chien-chang, the Governor of Kweichow, that the question of the change in the form of government should be reconsidered by the Citizens' Convention, was brought up. It was decided to dispatch a telegram in reply of which the following is the translation made by the *Feking Gazette*:

Your telegram has been received and perused. As a result of a special meeting of the Tsan Cheng Yuan convened to discuss its contents we have decided to send you our views as follows.

The contents of your telegram amount to nothing more or less than asking for the cancellation of the *fait accompli* of a constitutional monarchy on account of the trouble in Yunnan, a course which is not unlike treating affairs of state as a game of chess and the State as a toy. The arguments are so poor and the words so unreasonable that they are in truth not worthy of discussion; but the latter part of the telegram, in which it is proposed either to submit the question for the reconsideration of the Citizens' Convention or officially to cancel (the restoration) "with one word" from the Chief Executive, conveys the idea that the settled question of the change of Kuo-ti can really be reconsidered and another experiment made. Such an idle argument not only treats the law lightly but it is feared that it will also disturb the minds of the people. This Yuan, being the highest legislative organ of the country as well as the principal representative of the Convention of Representatives of Citizens, find it impossible to remain silent respecting this matter. Our duty compels us to correct your erroneous views; and it is hoped that you, gentlemen, will kindly listen to our words. The existence of a State depends on the force of law in maintaining the situation, and law is made by the wish of the people. When the people are asked to give their views on the law they are perfectly free to say whether they are for or against it but once a law is passed and put into execution even the law-makers themselves cannot revoke it. This is a principle adhered to by all nations of all times. Recently the question of Kuo-ti was settled by the Convention of the Representatives of Citizens in accordance with the method fixed by the Legislature, the comprehensiveness and thoroughness of which was recognised and praised by foreigners and Chinese. The procedure was based on the foundation of the Citizens' Convention and its result was based on the will of the people of the whole country. In order to be sure that no factional views of any particular set should gain dominance, the views of the various bodies of merchants in all localities were secured; and in order to insure freedom for the expression of opinions, the provinces and the various bodies were allowed to cast their votes freely. As a consequence of such a comprehensive and safe method to settle the exceedingly important question of Kuo-ti, the whole country willingly agreed and no opposition was raised. Yet to our great surprise you have recommended the reconsideration of the question without any good reason and the suggestion is made after the change of the Kuo-ti has been officially announced. Such a fickle attitude is never heard of even at times when an order issued in "the morning is changed in the evening." If the will of the people were as changeable as summer rain and autumn cold it could not be changed so quickly as this.

Furthermore, the Convention of Representatives of Citizens was composed of representatives elected by successful candidates of the primary election of the Citizens' Convention. These two bodies bear different names, it is true, but their composition is practically the same. Now is it not an absurdity to trust the Members of the Citizens' Convention elected by the successful candidates of the primary election but to distrust the "representatives" of the Convention of the Representatives of Citizens elected by the same body of men? In some modern countries the Constitution cannot be altered within a definite period after its final passage. If the Constitution must be so treated how much more should the Kuo-ti be? If your telegram be accepted then the will of the people

can be changed at any time and the law revoked any day. How could we show our trustworthiness to the world and place the country in an unshakable position if we were to act thus? This is the reason why the question of Kuo-ti cannot be submitted to the Citizens Convention for reconsideration.

As to the Chief Executive of a republican country, he is only an instrument through which the will of the people is put into execution. The sovereign right of a republican country is vested in the people. This is laid down in the Constitutional Compact as plainly as the rays of the sun and the light of the stars. The change of Kuo-ti is, therefore, based on the will of the people and not in the least on the views of the Chief Executive. Indeed, the Chief Executive during the process made some declarations which were unsuited for the occasion; but these remarks were the sincere views of an onlooker for the purpose of awakening the people who were the actual principals in the case. This, therefore, cannot be taken as an interference on his part with the question of Kuo-ti. Now since the result of the balloting has shown that the people are tired of the Republic and wish to have a constitutional monarchy, the Chief Executive has been placed in an impotent position. This is the reason why when the Li Fa Yuan reported to him their decision in favour of a constitutional monarchy, the Chief Executive only gave a refusal respecting the position offered him and did not go out of the way to say anything respecting the decision for the Kuo-ti. This is a plain proof that the Chief Executive had no power to interfere with the question of Kuo-ti. Yet in spite of it all and after the failure of the Chief Executive firmly to decline the offer of the Throne, you wish to call on him to cancel the constitutional monarchy now established "by one word." Leaving alone the question that the Kuo-ti has been decided by the whole body of the people and cannot be cancelled by the Chief Executive alone, we must also remember that a Republic of such a nature, even if it be restored, will not be worth maintaining. Considering the wish of the people, they cannot be so fickle as to demand this. This is the reason why the proposal that the Chief Executive be asked to cancel the Constitutional monarchy cannot be entertained.

Your telegram also says that since the reason why the people wished to change the form of State was to secure peace and as the change has proved to be not only incapable of maintaining peace but liable to create disturbance, the will of the people has changed with the turn of the currents of time, etc. Psychologically speaking, there is no standard of measurement to say whether the country is in a sound or dangerous position. Even the signs of the change of the will of the people can hardly be discovered in facts. We need not discuss the point that the great and important question of Kuo-ti, recognised by the representatives of the whole country as safe and solemnly passed, cannot be suddenly cancelled simply because a few provincial authorities regard it as dangerous. Indeed the actions of you, gentlemen, are not entirely unconnected with the change in the minds of the people from a sense of safety to one of fear of danger. The change itself is, therefore, not responsible for the precarious situation. The reason is that when the question of Kuo-ti was first settled, the people within the seas rejoiced in thundering voices, being of the opinion that as the evil system of the Republic has disappeared it would not be difficult for the State to secure stability. Who could have imagined that even while the ceremony of enthronement was still in process of preparation and foreign recognition negotiated for, the news of the rebellion in Yunnan would reach our ears. That on which the people have relied for peace is now actually showing signs of possible danger. Except for the fickleness of Tang and Jen, there would have been no obstacle to the renewing of the form of State. There is, therefore, no question of doubts on the part of the people. It is no exaggeration to say that it is Tang and Jen who have caused the people to doubt and fear.

You gentlemen have received innumerable graces from the State and thoroughly understand the great principles of righteousness. The province of Kueichow, owing to its proximity to Yunnan, is in a dangerous position. In our humble opinion you should have marched your troops to Yunnan and punished the rebels on the first news of the trouble in that province or you would have done well if you had strongly held the strategic points on the border so as to isolate Yunnan, a step which would have brought an early termination of the Yunnan rebellion. Instead, you have blamed the Central Government for the rebellion in Yunnan as if you have been afraid that the trouble in Yunnan was not affecting other localities fast enough. In this we, members of the Yuan, cannot bring ourselves to agree with your views.

Since the outbreak of war in Europe, China has been in a precarious position and her dangers have reached their climax this day. You gentlemen are all well-known patriots. Even if you should disagree with the policy of the Central Government, you should temporarily forget the same and co-operate in placing the country on a sound foundation and should not create fresh disagreement and thus hasten the downfall of the country. Remember the proverb that the fisherman profits when the oyster-catcher and clam come to blows. We shiver when we think of this. We have said all we wish to say and hope that you will give our words careful consideration.....

(Signed) Tsan Cheng Yuan in the Capacity of the Legislature.

Subsequently Mr. Lung Chien-chang was dismissed from his post and ordered to come to Peking for trial and punishment. The reports received from the southern and south-western provinces during the early part of the month were reassuring. In some districts in Kwantung bandits attacked Customs stations and defenceless villages, but the troops remained loyal and the Military Governor reported that there was no ground for alarm.

No sympathy with the revolt in Yunnan was expressed in any responsible quarter in China, but as might have been expected, the rebel organs published in the foreign settlements and concessions professed to believe that the leaders of the revolt were animated by the purest patriotism. In Peking itself *Shuntien Jihpao*, a Japanese owned paper printed in Chinese, brought itself into notoriety by making grossly offensive personal attacks upon Emperor Yuan. Day after day the paper in question published false reports obviously designed to cause unrest and embarrass the Government. Owing to the incidence of extra-territoriality the Chinese authorities were unable to prevent this rebel propaganda from being carried on and a request to the Japanese Legation to take some action met with no response. This was in striking contrast to the action of the Chinese Government when the Japanese authorities directed their attention to some offensive remarks published by a Chinese newspaper in reference to Count Okuma. Heavy punishment was at once inflicted upon the offenders.

Although in itself not directly associated with the subject with which this article treats, reference must be made to a Mission to congratulate the Emperor of Japan upon his coronation that the Chinese Government proposed to dispatch. The Mission was to be headed by His Excellency Chow Tze-chi, Minister of Agriculture and Commerce. The Japanese Government apparently welcomed the decision to dispatch this Mission, and great hopes were entertained that it would result in improving the relations between the countries. All the arrangements were completed and some members of the Mission had already left Peking for Japan, when Mr. Hioki, the Japanese Minister in Peking, on January 16, the morning after he had entertained Mr. Chow at a valedictory dinner, announced that he was instructed by his Government to request the postponement of the mission. The reason assigned was that certain inconveniences were prevailing at the Japanese court. The view taken by the Chinese authorities is that, owing to the circulation of rumours by unscrupulous journalists, both Chinese and Japanese, an entirely erroneous impression was created about the Mission. Although it had no political bearing whatever, Chinese rebels and their sympathizers declared that the Chinese Government was sending Mr. Chow to offer special privileges to Japan in return for the recognition of the Empire. In view of the fact that these rumours had gained wide credence in Japan, and that an attempt had lately been made to assassinate Count Okuma, the Japanese Government feared that there might possibly be outrages on the part of Japanese and Chinese revolutionists. The Chinese Government in postponing the Mission has expressed its appreciation of the good-will shown by the Japanese Government. One good result of the incident has been that it has completely refuted the rumours that special privileges were to be offered to Japan.

Telegrams urging the Emperor to ascend the Throne without delay continued to pour into Peking. Among those who counselled this step were the Urga Hutukhtu and over 100 of the Mongol princes.

Republican Appeals to Foreign Ministers

The Republican, or what is now called the rebel leaders and partisans, are leaving no stone unturned to secure foreign sympathy or at least neutrality, and to this end have addressed communications to all the foreign Ministers in Peking. About January 22 the following identic communication was received from the Yunnan Chiang-chun Tang Chi-yao and the Civil Governor Jen Ko-cheng:

The Wuchang revolt broke out on October 10, 1911, and the different provinces followed the lead because the people of the country had long suffered from the oppression of monarchical government. They therefore rose up in a revolution over the question of the form of government. Recognition of belligerency was extended at this time by the friendly powers and neutrality proclaimed. The provisional Government was set up at Nanking and a government of the people established. The Manchu Emperor abdicated, the Republic was formed, and notifications were sent to the friendly powers. Later, when the regular assembly had been

established and the organization of the government had been completed, recognition was extended separately by each of the friendly Powers who thereby earned the deep gratitude of the people of our country.

Unfortunately the present President of this country, Yuan Shih-kai, plotted to overthrow the Republic in opposition to the progressive sentiment in the country, against the advancement of civilization in the world, contrary to the promise of his oath of office, and without regard for the advice of the friendly Powers. We, Chiang-chun and Governor, in order to show respect for the Constitution and uphold the Republic, have despatched a loyal army against the national outlaw. We hope that the friendly Powers will maintain a benevolent neutrality that thereby the mutual friendship of long standing may be strengthened.

With compliments.

The Treaties entered into between the Republican Government and the Manchu Government and the different nations before the question of the Imperial form of government was raised will all continue in force and responsibility for indemnities and loans will be maintained as before.

We, the Chiang-chun and Governor, will be entirely responsible for the protection of the lives and property of the nationals of the different Powers residing within the limits over which we exercise control.

The Republic will not recognise any treaties, agreements, loans, etc., entered into between Yuan Shih-kai or his government and the different nations after the question of the Imperial form of government arose.

In case any of the Powers assist Yuan Shih-kai's government with contraband of war the same will be confiscated upon being discovered.

If officials, merchants, or people of the different nations commit acts to assist Yuan Shih-kai's government and injure us, the Chiang-chun and Governor, opposition will be offered.

Sealed By Chiang-chun of Yunnan Province.

Sealed by the Governor of Yunnan Province.

31st day of the 12th month of the 4th year of the Republic of China.

An identic communication as follows was received by Foreign Ministers early in January. It was signed by twenty ex-members of the National Assembly of the Republic of China, which was abolished by President Yuan Shih-kai on September 4, 1913;

We, the undersigned, respectfully beg leave to address the following communication to their Excellencies the Ministers of the Friendly Nations:

Yuan Shih-kai, ex-President of the Republic of China, by proclaiming himself Emperor, has brought disaster and ruin to the country. He has not only lost the confidence of foreigners but has also made himself the common enemy of the people.

Our fellow citizens in Yunnan and Kweichow have taken up arms with a view to bringing him to justice. Our righteous cause cannot fail to meet with response everywhere. He is now unable to cope with the popular movement.

According to newspaper reports he is willing to sacrifice our national interests in order to induce foreigners to recognise him as Emperor. This is giving rise to great consternation throughout the land. It is self-evident that no grant or concession to any foreign Power can be valid as against the Republic of China unless made in a legal manner by the Government of the Republic of China with the advice and consent of bona-fide representatives of the people. By usurping the Throne Yuan Shih-kai has *ipso facto* lost the qualifications of Chief Executive of the State. All dealings, therefore, between him and foreigners are his private affairs and cannot be considered as binding upon the people.

Since the establishment of the Republic our citizens have been brought into closer and closer relations with the friendly nations and great benefits will be derived through harmonious co-operation between China and foreign countries. We fervently hope that the Governments of the friendly Powers will not deliberately alienate the good-will of the whole nation by giving support to a tyrant.

We ask the favour of your transmitting this communication to your respective governments and peoples.

Respectfully submitted by (Signed) Ku Chung-hsien and Sun Hung-yi of Chihli; Li Shu-ying and Chao Shih-yu of Shensi; Pang Kai-shih of Hupeh; Pang Yun-yi, Chen Chia-hui and Ao-yang Chen-hsing of Hunan; Lan Kung-wu of Kiangsu; Wen Chun and Wang Han of Kiangsi; Tu Sze-yeh and Yin Yu-li of Chekiang; Wang Chien-kang and Wang Lu-pang of Anhui; Lin Shen of Fukien; Hsu Fu-lin and Yang Yung-tai of Kwangtung; Lan Tsin-yung of Kwangsi; Chang Yao-tseng of Yunnan, Members of the National Assembly of the Republic of China.

In our last issue we inadvertently omitted to acknowledge the source of the translation of documents connected with our article on the monarchy movement, which was the *Peking Gazette*.

SUGAR INDUSTRY OF PHILIPPINE ISLANDS

(By C. W. HINES, SUGAR TECHNOLOGIST, BUREAU OF AGRICULTURE, MANILA, P. I.)

The production of sugar in the Philippine Islands for the year 1914 amounted to 370,000 long tons, the majority of which was made into the molasses type of muscovado sugar and sold under the name of "bayon" or "mat" sugar, "pilon" sugar and "panocha" sugar. In addition to this there was a considerable amount of centrifugal test sugar made as well as some high grade sugar from one refinery here.

"Bayon" (Mat) Sugar

This is molasses sugar packed in "bayones" or palm leaf bags and for this reason is designated as mat sugar. The method followed in the making of this class of sugars is very simple, consisting only of clarifying the juice by the aid of a small quantity of dry slaked lime, and concentrating it in a battery of iron kettles during which time the lighter impurities rising to the surface are removed. The boiling juice is dipped from kettle to kettle until the final concentration is made in the last member of the battery. When this material has reached a heavy "string proof" it is dipped into a large shallow box or crystallizing tray and stirred about during cooling. In this manner a pulverized yellow or dark product is secured, the quality of which depends upon the original condition of the juice and the class of work during boiling.



PILON SUGAR IN STORE FOR CRYSTALLIZATION

These mat sugars are graded on polarization and are classed as follows:

- No. 1 which polarizes 87 degrees or over.
- No. 2 which polarizes 85 degrees to 86.9 degrees.
- No. 3 which polarizes 82 degrees to 84.9 degrees.
- No. 4 which polarizes 80 degrees to 81.9 degrees.
- No. 5 which polarizes 76 degrees to 79.9 degrees.

Sometimes there is made a No. 6 or "Corriente" sugar which is a very low grade of molasses sugar.

Comparatively small amounts of these mat sugars, especially of the lower grades, find their way to the American refineries on account of their poor quality, and even then they are accepted only when there is a scarcity of centrifugal sugars to supply the demand.

"Pilon" Sugar.

In some sections of the Philippines, mainly in the provinces of Pampanga and Tarlac, there is used a peculiar container which is known as a "pilon."

This is a bell-shaped earthen jar varying in capacity from 130 to 180 pounds of crude sugar. It is about two feet in height and one and one-half feet in diameter at the top. In the bottom of each of these jars is a hole about two inches in diameter, through which the molasses drains away from the crystals. When the sugar is placed in these containers a few pieces of bagasse or some clay is first placed in the bottom to prevent the heavy sugar solution from passing through and being lost.

The method followed in making this sugar is identical with that previously described, except that instead of dipping the heavy mass into a shallow box and constantly stirring until crystallized as is done with the bayon sugars, it is dipped directly into the pilones and set over smaller earthen jars of about one and one-half gallons capacity and left there until the sugar is to be transported to market.

This kind of sugar is largely used by the Chinese of Manila in making a semi-refined sugar called "Caramelo." The crude process of refining begins before the sugar is removed from the earthen jars. A layer of clay is first applied to the top and kept saturated with water, which assists in washing away the molasses adhering to the crystals and also to a certain extent in bleaching them.



CHINESE IN MANILA MAKING "CARMELLO" SUGAR

The jars are then broken from the large lump of sugar, after which the white upper portion of sugar is dissolved, clarified with milk of lime and whites of eggs, and finally re-crystallized during constant stirring.

The crystallized mass is then cut, while still hot, into loaves and is used as a coffee sugar. It is not uncommon to find these sugars fairly white in color and polarizing over 99 per cent.

"Panocha" Sugar

This peculiarly shaped sugar cake is made by molding the heavy massecuite into semi-spherical cakes when it has nearly cooled. Coconut shells are usually used as molds for this purpose, but sometimes metallic cups are also used.

The clarification and evaporation work for this sugar is identical with that used for the "pilon" and "bayon" sugars. After the boiled liquor has reached a heavy density so that it will crystallize upon cooling, it is lifted from the fire and stirred about in the kettle until it has begun to crystallize and may be molded into form.

This sugar is largely used by the natives for home consumption. During the past year more than twenty-four thousand tons of this sugar, or about 6 per cent of the total sugar production, was consumed in this form.

Centrifugal Sugars.

In addition to the old mills turning out crude sugars there are now located in the Islands a number of factories producing first centrifugal or test sugar. The past year marked the completion of the largest of these factories which is located at Canluban in the province of Laguna, about 35 miles south of Manila. This factory has a capacity of 1,200 tons of cane in 24 hours. The next largest factory is located at San Jose, near the southern end of the Island of Mindoro, with a daily capacity of 800 tons of cane. San Carlos in Occidental Negros ranks third with a capacity of 600 tons of cane per day. This factory started grinding only last year and is arranged so that it may readily be enlarged to more than double its present capacity. In fact, a material increase in the capacity of this factory will be made before the next grinding season.

In the following list may be found a number of smaller factories; their locality and daily cane grinding capacity in long tons:



LUZON SUGAR REFINERY, LOCATED AT MALABON, SIX MILES FROM MANILA, PHILIPPINE ISLANDS

Philippine Develop. Co., Calamba, Laguna	..	300
De la Rama Central, Bago, Occidental Neg	..	300
Guanco Central, Hinigaran, Oc. Neg	..	300
Carmen Central, Calatagan, Batangas	..	250
Pia Eugenia Cent., Tigbawan, Iloilo	..	200
Cabacalan Factory, Cabacalan, Oc. Neg	..	150
Dinaluphian Factory, Dinaluphian, Bataan	..	125
Canloan Factory, La Carlota, Oc. Neg	..	100
Talisay Factory, Talisay, Occ. Neg	..	100
Muntinlupa Factory, Muntinlupa, Laguna	..	90
St. Louis Oriental, Manaoag, Pangasinan	..	70

In addition to the factories making crude centrifugal sugars there is one refinery, the Luzon Sugar Refinery, located in Malabon, Rizal province, about 6 miles north of Manila, which has a capacity of 25 tons of finished sugar per day. This factory turns out a beautiful white granulated sugar and uses for this purpose three classes of local sugars, viz., centrifugal test sugar, bayon and pilon sugars.

There is more or less sugar produced all over the Philippine Islands, but the industry is developed along modern lines in only a few localities. Vast fertile areas are found in many sections which will some day become productive sugar regions. Many of these are now used for a single harvest of rice each year or lie fallow.

The following list shows the provinces which now produce sugar:

Province	Hectares.	Metric tons.
Occidental Negros	51,772	148,069
Pampanga	31,576	63,255
Batangas	13,816	22,007
Iloilo	13,208	34,355
Tarlac	7,164	15,806
Ilocos Sur	5,534	7,912

Cebu	5,103	10,500
Oriental Negros	4,594	12,136

Equivalents—The hectare equals about two and a half acres. The metric ton is only 35 pounds less than the long ton used in the U.S.

The above is a partial list from the chart prepared by the Bureau of Agriculture and does not, in all cases, show the total product of the sugar cane from the indicated area since there are omitted the columns showing the amount of basi (an intoxicating beverage) and the quantity of molasses produced from the cane juice. These amount to a considerable quantity in some sections of the islands.

The yearly export of sugar for the past sixteen years may be seen from the following table.

Year Ending June 30	Metric tons.	Year Ending June 30.	Metric tons.
1899	57,447	1907	120,289
1900	78,306	1908	151,712
1901	56,582	1909	112,380
1902	67,795	1910	127,717
1903	111,647	1911	149,376
1904	75,161	1912	186,016
1905	113,640	1913	212,540
1906	125,794	1913 (July to)	
		(Dec.)	65,383
		1913 (Cal.)	
		(Yr.)	236,498

It will be observed that the exports of sugar have grown each year until 1914 marked the maximum with 236,498 tons.

This increase is due largely to the development of new plantations and the adoption of more modern methods during recent years.

CENTRALS FOR PHILIPPINES

Specifications for the P2,000,000 sugar central to be built at Isabela, Occidental Negros, have just been completed by the government sugar central board. The mill will be a 1,000 ton central of the most modern type, driven by electricity, and bids have already been called for.

An organization of Capiz planters embracing 10 of the most productive haciendas in that locality, has applied to the sugar central board for government aid in the construction of a sugar central to have a grinding capacity of 750 tons of cane per day.

SUGAR PROSPECTS IN FAR EAST

At the present time, writes the U.S. Consul General at Hongkong, sugar prospects in the Far East are much brighter than usual. The Philippines promise a large crop, that of Negros and Panay probably reaching 4,000,000 piculs, or about 266,666 short tons, and exceeding all previous records. The Board having charge of the erection of sugar centrals in the Islands under the new plan of assisting such projects by loans from Government funds has decided to promote the erection of at least one new mill to care for the 1916-17 crop.

Prices of sugar all over the Far East have held up well, the demand in America supplementing the reviving demand in China and India. The Hongkong refineries have been crippled in their operation both by the restricted market in China and other consuming centers, and by the difficulty of securing raw sugar from Java and other producing countries. This has led to an increase in the import of sugar from the Philippines and from Chinese ports. The imports into the Colony for the first half of the current year are placed by commercial interests at 189,133 short tons, as compared with 270,333 short tons during the same period of 1914.

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THE YUNNAN REVOLT

The all absorbing topic in China at the moment is the revolt of Yunnan against the "will of the people" to have a monarchical form of Government re-established. Opinions as to the importance of the revolt are varied. Those in whom the wish is father to the thought see in it the end of Yuan Shih-kai; others are confident that its development will culminate in the division of China into two separately governed States—North China as a Monarchy and South China as a Republic; while others look for restoration of so-called Republicanism.

The point of view depends entirely upon the locale of those expressing opinions. In Peking the idea generally entertained by the diplomatists is that the affair will "fizzle" out. Belief is firm that Yuan Shih-kai will prevail easily over those who have risen against him, and little importance is attached to what is characterised as "the vapourings of the malcontents who shelter in the foreign settlements and treaty ports." In Shanghai, in Hongkong, and naturally in the southern provinces, quite a contrary feeling obtains. Rumour has full play, and sensational development treads on the heel of sensational development to the entire bewilderment of the casual student of Chinese affairs. The result is the generation of desperate pessimism, and it is only the very few who will apply themselves to a thoughtful analysis of the conditions with the object of obtaining a true valuation of the actual situation. So the north remains placid and the south runs riot with its ideas; the result being reflected through the foreigners in either region.

Very few foreigners are competent to estimate correctly the whole situation, and certainly fewer are able to make a forecast of events with any surety. All, however, are able to, and do make haphazard guesses as to the outcome. The Japanese seem to be the most satisfied that their view of enlarged trouble is the right one. Some of them might be in a peculiar position to know, for among the numerous allegations that have taken wing on the wind are many that numerous Japanese are hand and glove in the enterprise with the object of making tools of confiding Republicans to work their own national ends upon China.

In this connexion it must be remembered that long after the Monarchy movement had been quietly proceeding,—at a time when no foreign legation in Peking had any news from the many consuls scattered throughout China that trouble was liable to break out,—it was the Japanese who approached other nations to proffer the "friendly warning" to China that unless the movement was stopped internal difficulties would arise. Japan may have possessed special means of knowing what was afoot; or she may have been cognizant of the Republicans' plans. Certain it is that she manifests a very touching interest in and solicitude for the welfare of China, particularly when the word welfare is defined as being of distinct and immediate benefit to the Japanese.

What has to be acknowledged is that China is regarded by Japan as under her tutelage, and what chiefly annoys Japan at the present time is that other nations seem obstinately to refuse to admit and accept that condition. Japan's attitude, therefore, complicates the whole of China's internal affairs, especially at such a time as this when Republicans are actively bent upon subverting the Peking government. For this reason more than any other it is impossible to forecast what aspect the revolt in Yunnan may take. Left to themselves it is not likely that the Republicans can overcome the forces at the disposal of Yuan Shih-kai, but given the active if veiled support of Japan they may be able to involve the whole country in devastation such as that which signalled the bloody march of the notorious Taipings. The regrettable and alarming feature is that certain rebel leaders are ready to accept assistance from Japanese to carry out their purpose, apparently failing to realise that for the aid thus loaned the full pound of flesh will be ultimately demanded, nor is any international Portia likely to interpose to avert the calamity involved in the fulfilment of the demand.

Before it is too late the Republicans will be well advised to discard all Japanese aid or proffers of aid in any shape or form, relying on the judgment of the Chinese people for assistance if their cause is right and the best for the country. In 1911 the

revolution which ended in the overthrow of the effete Manchu dynasty was backed by the broad common sense of the people. Because the Manchus had outlived their usefulness, because they were powerless to govern, because they rejected all prayers for reform the vast population of China acquiesced in their overthrow when the revolutionists struck at Wuchang and elsewhere. Conditions are different to-day. The forces who are now fighting for what they call a Republic must have stronger claims for whole-hearted public support than they possessed in 1911. They must not only have a more stirring rallying cry, but they must be able to provide guarantees that they will be able to serve the country better than the men who are working for wider popular participation in government through a constitutional monarchy. Without these their armed protest against the monarchical form of government will be of no avail, and will but serve to plunge the country in misery which will be intensified by pressure from Japan, whose obvious policy is to use any weapon and any combination of circumstances to rob China of her sovereignty and independence. Any loyal and patriotic Chinese would do well to search his heart and discard blind prejudice before he decides to participate in any revolt against the existing government. To make China strong required the united effort of all her people—articulate and inarticulate. Personal feelings should not be allowed to dictate action for a second. In the wreck caused by violent expression of passion the nation may easily go down to oblivion. By wise action, by sagacious foresight, by co-operation for the national good, by patient, peaceful plodding the young Chinese who now profess to believe that China is being injured by the restoration of a monarchical form of government could in course of time have assumed command of the State's affairs, but the lamentable rebellion upon which the unwise among them have now embarked is likely very seriously to set their country back, even if they succeed in their task, since its continuation will give greater opportunity for aggressive nations to assume the command in China which otherwise they would not dared to have done. Unhappily the die is now cast, and the Republicans must win or lose. To win they must fight their way through all the provinces to the Yangtze, if those provinces fail to join the movement voluntarily, and if the Republicans are not content with a South China Republic they must continue shedding blood, burning and ravaging, to Peking. Words are not needed to describe the condition China will be in after such a campaign.

JAPAN'S RESPONSIBILITY FOR CHINA'S TROUBLES

On January 21 the Waichaiopu (Chinese Foreign Office) notified the Foreign Ministers in Peking that statements made in the press of both China and Japan to the effect that the coronation of the Emperor-elect had been fixed for February 9 were unauthorised and incorrect. It was deemed advisable to make this declaration in view of the campaign being carried on in Japan with the object of convincing the Japanese Government that a predatory policy should be adopted with regard to China since that country had ignored the "friendly" advice tendered by the Entente Powers. On the extraordinary grounds that China had "flouted" Japan by proceeding with the preparations for the coronation the Japanese press and militarist party demanded, and were becoming increasingly insistent in their demand, that Japan should administer condign punishment. The state of politics in Japan, too, indicated that if the slightest excuse could be found to chastise China for minding her own business it would be availed of in order to avert the probable fall of the Okuma Cabinet by distracting public attention.

The Chinese Government therefore deemed it prudent to give no excuse for further unpleasantness with her neighbour and decided to make the situation clear. While nothing was said about postponing the coronation indefinitely the Powers who had put their finger in the pie at the behest of Japan were given to understand that the Emperor-elect had no intention of rushing the coronation, but intended instead to devote his time to restoring order within the confines of his country. No doubt this

renewed assurance will be regarded both by the rebel elements and Japan as further weakness, and it will be surprising if the fullest advantage is not taken of it. Japan has given many intimations to the rebel section that she is not averse to their efforts to create continued disorder in the country, and the regrettable feature is that the rebels have been so short-sighted as to accept this dangerous sympathy. When Japan headed the first demarche the rebels unquestionably took the advice, offered as it was without any apparent reason, to be an intimation on the part of Japan that she, like them, also wished to see the overthrow of Yuan Shih-kai, and since that was followed by the Yunnan outbreak the "leaders" of which went direct from Japan to Yunnan, the responsibility largely rests upon her shoulders for the bloodshed and unrest caused by that unfortunate movement. The obvious moral is that if Japan is sincerely desirous of seeing peace and order obtain in China she should abstain from interfering with China's domestic concerns. That we are not alone in the belief that Japan is to blame for any unrest in China is shown by a striking article that recently appeared in the exceptionally well-informed *Japan Chronicle*. We quote:

"From the point of view of a group of Powers desirous of China remaining at peace, the presentation of the joint Note was a diplomatic blunder of the first magnitude. Three months before it would have been a different matter altogether, but coming at the time that it did, it could only make things worse. Interference in the internal quarrels of a nation has proved disastrous again and again, and should only be resorted to in the gravest circumstances, and there is no evidence that such circumstances had arisen in China. It is easy to foresee what will happen if the President fails to put down the present disturbance quickly and completely. The Powers will intervene to prevent further disorders, and the Powers, in this case, means Japan. As between the other Powers and Japan, it remains to be seen whether the simultaneous action will have the effect of maintaining their respective interests in China. About the same time as the Joint Note was presented, we heard of Japan joining the no-separate-peace treaty and being definitely promised a full voice in the peace discussions. Exactly how the advantages and disadvantages of these steps are calculated, and how they balance with the advantages or disadvantage of co-operation in the presentation of the Note, are matters which diplomatists have, no doubt, carefully weighed. One thing is certain—that any disturbance in China deemed sufficient grounds for Japanese interference increases influence in that country, and the present conditions are extremely favourable for such interference. It is only two years ago that Sir Edward Grey declared that Britain's chief interest in the Far East was to see a strong and united China, while it has been asserted a hundred times that the autonomy and integrity of China were the bedrock of Japan's Far Eastern politics. If diplomacy is moving towards these ends it is by a route of more than diplomatic deviousness. There are Japanese statesmen old enough to remember domestic revolutions in this country. One wonders how they would have regarded a joint Note in 1867 or 1868 demanding that the Restoration be deferred to a more suitable time. Their experience of what foreign interference those interested in embroiling the Shogunate with the Powers was able to achieve was not entirely happy or to be looked back on as adding to the national dignity. These memories, however, do not seem to have any influence on their China policy."

JAPAN'S LATEST INSULT TO CHINA

Any layman may be pardoned who confesses to absolute mystification with regard to Japan's policy towards China, for international history provides nothing more complex than the tortuous course followed by Japan during the past eighteen months. So extraordinarily contradictory has her attitude with regard to China been that she is either bungling her diplomacy or she has decided upon a course calculated to inflict upon China the most startling surprises and most studied humiliations. While professing ardent friendship on the one hand, she wields a mailed fist on the other. In a fair way to develop trade relations with China calculated to outstrip in value those enjoyed by any

other older nation she deliberately perpetrates acts destined seriously to curtail the existing volume and absolutely threaten possible supremacy. As a result of the now notorious twenty-one demands and the consequent ultimatum Japan lost trade to the value of some thirty million yen within the short space of two months. Scarcely had the feeling which caused this loss subsided in China than other steps were taken which are destined to widen the breach between the two countries. Instead of solidly cementing friendship with China it would seem that Japan is bent upon engendering constant distrust and estrangement. The tie of common literature which should be a unifying agent, the advantage of centuries of association which should be the foundation stone of co-operative action, the many similarities marking the social life of both nations which should be a shield against exotic influences creating schisms, seem to be valueless in the hands of Japan. The reason is difficult to seek. If Japan is not merely clumsily dislocating her own chances out of sheer inability to solidify them she is deliberately pursuing a sinister policy of pin-pricking designed to sting China into providing the excuse for conquest, in which case the fact is made obvious that Japan has accepted the theory poetically described by Wordsworth in the lines "That they should take who have the power, and they should keep who can." A dangerous policy at best, but one the adventurous militarist party of Japan would seem to regard as profitable at the present juncture.

These reflections are caused by the latest snub which Japan has administered to unsuspecting China by calmly notifying the Peking government at the eleventh hour that it was advisable to postpone the mission of congratulation to the Japanese Emperor which China, in arrangement with Japan, had prepared to despatch. The Mission was to have been headed by Mr. Chow Tze-chi, the Minister of Commerce, Agriculture and Industry, and attached to it were to have been the heads of several departments who were to have investigated Japan's industrial development. Japan expressed pleasure when the mission was suggested, and later encouraged the Chinese by outlining the preparations which had been made to receive it. As the mission from Russia headed by the Grand-Duke George was also in Japan it was suggested to delay the Chinese Mission until His Majesty the Emperor could be free to give it proper attention, and finally it was arranged that the departure from China should be on January 19. All preparations were completed, and part of the suite had set upon its way when on January 15 the Japanese Minister telephoned to the Chinese Foreign Office announcing that he had received telegraphic instructions from Japan asking that the mission be postponed. On the following day the Japanese Minister personally called on the Foreign Minister and informed him that his instructions were that "as certain circumstances had arisen which prevented the Emperor receiving the mission" the government would be glad to have it postponed. It is significant that no explanation was tendered when this communication was made, but in a semi-official telegram from Tokyo it was stated that the postponement was requested because the Emperor would not be present in Tokyo at the date the mission was expected to arrive. An extraordinary suggestion, unless His Majesty were seriously ill, in view of the fact that the dates for the departure of the mission from China had already been arranged with the Japanese Government. Officialdom in Peking was naturally thrown into a state of bewilderment, and no satisfactory solution could be found by any of the foreign diplomatic corps for so sudden and unexpected an action, save and except the one that Japan undoubtedly was determined to show China the scantiest courtesy she could in any and all circumstances. A few days later, however, an official explanation was forthcoming from the Japanese government, and it was to the effect that while the Japanese Government knew that the mission was purely one of courtesy and was without political import, a certain section of the press of both countries had ascribed to it political motives, and had alleged that concessions were to be made to Japan by China to secure her support and recognition of the monarchy. In view of this and having regard for the fact that there were Chinese and Japanese who were anti-monarchists and fanatics who would plot against the mission, the Japanese Government deemed it wise to have the mission postponed since they were desirous that no harm should come to

it, a possibility, they added, as was evidenced by the attempt in Japan on the life of Li Hung-chang, after the Sino-Japan war, and the more recent attempt upon the life of Count Okuma, the Japanese Premier, who a week before had been fired at as he drove in the streets.

This is, of course, a plausible excuse, but one which reflects seriously upon the ability of the Japanese Government effectively to police their own country, and consequently constitutes a striking commentary upon Japan's reiterated superiority over China in the organization and control of her internal affairs. It is a grave admission, too, that Japan knows that within her confines Chinese assassins plot with Japanese to destroy life, and yet takes no stringent action to arrest the plotters or curtail their activities. It is further an excuse which embodies a confession that the Japanese Government is just as helpless as it repeatedly alleged the Chinese Government is when it is confronted with some exceptional popular ebullition. In fact the Chinese Government felt no doubt about its ability to protect the Japanese Parliamentary mission which some time ago travelled through the country at a period when the Chinese populace had not nearly recovered from the insults it deemed were heaped upon it by the presentation of Japan's notorious list of demands and ultimatum. Though anti-Japanese feeling was running high, and people were subscribing large sums to a Patriotic Salvation Fund to defend itself against Japan, the Japanese parliamentary members, who might well have been accused of participation in the humiliation of China, traversed this land without one unpleasant incident, the amplest protection being afforded by the Chinese Government. Japanese business missions have also been similarly cared for without question, and at no time has the Chinese Government even thought of shirking responsibility by requesting the postponement of any particular pre-arranged or even unexpected visit. Apart from this, however, there is a point needing some explanation, and that is the delay in notifying China that it would not be expedient for the mission to sail. When it was suggested that the mission should visit Japan it was known to the Japanese authorities that there were rebels in their territory, it was also known that an attempt had been made upon the life of Count Okuma, Japan's Premier, and it was fully known that the Japanese press were strongly anti-monarchical as they are anti anything which China might attempt to do without the acquiescence or consent of Japan. The warning which was so belated could therefore have been issued much earlier, and if it be contended that it was not until the eleventh hour that the Japanese authorities became possessed of definite information of some plot that was likely to be successful it is very curious that arrests were not promptly effected, at least as evidence of good faith. If Japan's excuse be true, then, the world must accept Japan's declaration that she really is unable to protect the lives of public personages who propose to visit the country as guests of the nation, if some would-be assassin or other is enterprising enough to precede his victim and arrange for assistance from what the Japanese Minister describes to the Chinese Government as "fanatical Japanese," a class, apparently, who enjoy some immunity from the grip of the law. What China is entitled to expect, however, is that the Japanese Government, now that it has been placed in the humiliating position of having to request the postponement of a visit of a mission from a friendly country because it cannot protect it, will leave no stone unturned to limit the possibilities for harm by the rebels and "fanatics" who seem to be terrorising it, and if the Japanese Government fails to do this it certainly would seem to be in order for the Chinese Government to follow the example of Japan and send a Note pointing out the grave state of affairs existing in the Japanese Empire.

If the explanation of Japan is but an excuse it is an unfortunate one, and no surprise need be felt that the Chinese place their own interpretation upon it. Rightly or wrongly the Chinese have come to believe that Japan burns the midnight oil planning how next she might bring humiliation upon their country. The Chinese press openly write of the postponement of the mission by Japan as an insult, and Chinese officials regard it as such. The result is likely to be, as it probably is intended to be, an inspiration to short-sighted malcontents in China to harrass the government, a development which by no means tends

to cement the friendly feelings which Japan so frequently talks about but so seldom exhibits. Foreigners whose business it is closely to watch international developments in this quarter of the globe can find little to say in defence of Japan's action, and most of them reluctantly conclude that it presages something more menacing. The concensus of opinion is that Japan, or a forceful party in Japan, is determined to create trouble in China which will afford excuse for the invasion of the country on the plea of protecting foreigners, and if that prevailing belief is incorrect it is distinctly due peaceful Japanese merchants that their Government disowns connexion with such an idea. Until Japan takes steps to suppress the continual vituperation which disfigures a large section of her press when they discuss Chinese affairs she will be suspected of unfriendly motives, and while suspicion is allowed to run rampant Japan need not be surprised to find a sustained falling off in her trade returns. It is realised by those who know the conditions in Japan that the mercantile and trading classes are averse to adventure in China, and that they abhor the cruelly irritating procedure adopted by the government towards their neighbour. They resent it because they are the ones who lose money as a result of it. The militarist party, however, are unmoved by the cries which try to halt their juggernaut. All that they see is a large army and what they believe to be the finest navy in the world lying idle while there are fair lands in China to conquer. Their desire is to turn on steam, and to go forward despite treaties, or alliances, or undertakings. The rest of the world is busy with its bloodshed or is too proud to dabble in such a thing, and the latter being recognised by the militarists they deem it a heaven sent opportunity, or as Count Okuma describes it "the opportunity of a thousand years," to go ahead and garner what is available in the way of ill-protected territory. The press make no bones about expressing themselves in this connexion and in blunt and sinister terms, and since they are permitted freedom of speech in urging an invasion of a peaceful friendly neighbour no one can be blamed for taking the most pessimistic view of the ultimate aim of Japan. It behooves all powers interested in the Far East, therefore, to keep a tireless eye upon events, and to be unceasing in their watchfulness until Japan clearly and unreservedly demonstrates that she as a nation harbours no predatory designs upon China but intends to uphold the solemn engagements she has entered into to safeguard the territorial integrity of China and respect her sovereign rights.

SOME THOUGHTS FOR CHINA'S BENEFIT

In the last issue of this journal reference was made to the intention expressed in a Mandate to reform the *likin* system, or lack of system, which now obtains throughout the provinces of China. As an earnest of the sincerity of the Emperor-elect in this direction we were told that officials had been despatched to investigate the manner in which this curse was militating against commercial progress in the country. If the spirit which animates the ruling hand to act in this direction would but inspire it to undertake a thorough and deep inquiry into the state of all forms of taxation something might result to justify the good that is claimed will come of the present change in the form of government. The whole method of taxation in China screams so loudly for reform that the resultant noise deafens the ears of officialdom to the actual source of the sound. What are the heart cries of an oppressed people are misconstrued by the deaf and the blind, the complacent and the self-satisfied official as the blatant mouthings of political agitators or the echoing clamours of the ignorant masses who may be led astray by half-digested theories. This deplorable condition existed under the so-called Republican regime just as it did under the autocratic rule of the Manchus, and it will obtain under the new Monarchy (that already styled Hung Hsien—or Great Constitution) unless a relentless attack is made upon the very root of the evil. If the Emperor-elect will do but that one thing and do it well he need do nothing else completely to justify his assumption of Imperial prerogatives, though the immediate future bristles with a myriad opportunities for a courageous man to make his name and rule immortal.

As has been alleged of the great bulk of mankind, so of the Chinese provincial officials: they resemble the swine which in harvest gather and fatten upon the acorns beneath the oak, but show to the tree which bore them no other thanks than rubbing off its bark, and tearing up the sod around it. Always the docile, law-abiding, easily governed people of China have been regarded as fair game for iniquitous taxation. Nor did the so-called Republic better the condition one iota. If anything it intensified it. There has been an increase rather than a decrease of taxation; an intensification rather than an amelioration of the deplorable condition of the great masses who constitute the backbone of the country. In certain regions the oppression has been worse than in others. Any indication of prosperity has been followed by studied efforts in the shape of taxation to kill it. Just as the recent levying of new *likin* dues on certain railways in the east* promptly prostrated freight returns and caused a cessation of cargo shipments, so did short-sighted officials in the far north-west ruthlessly tax a newly developed trade, which was bringing into the region something like \$200,000 per annum, until it was practically extinct. And in that self-same region indiscriminate taxation has now reduced the farmer to one square meal in two days. Whereas his cart was once taxed one sum for one year it is now mulcted in the same sum every five days. His horse is taxed going and coming; his grain is taxed in the ground and out of it; his pig is taxed alive and dead; its hide is taxed and its bones are taxed, and its despairing expiring squeal only escapes an impost because the tax-collector does not happen to be present when it gaspingly gives up the ghost. And for the money thus squeezed from the farmer what does he get? For roads he gets quagmires; instead of efficient police to protect him he is ravaged by bandits, who supplement the taxes of the officials with more taxation, or if he complains that his horse and cart have already been taxed to the limit of endurance he is deprived of both, and the products they were carrying to market are jettisoned by the bogside. On the other hand if he pays the bandits he is later on waylaid by "soldiers," for whose upkeep he is already squeezed dry by the district officials, and refusal to exhumate the few remaining cash buried in the depths of his garments meets with the loss of his property or a brutal beating. One night an inn-keeper in this territory was beset with armed robbers. His son escaped, mounted a horse grazing near at hand, and rode through the night to the distant magistrate. He told of the sad plight of his home—and was arrested for spreading "false rumours," release being refused until his already robbed father paid a fine. "And I have no money now," wailed the broken parent, "so my son must stay in gaol."

This allusion to the state of affairs in many parts of interior China is not the product of an idle imagination. The actual happenings related above occurred in the region north-west of Kalgan. The whole country from Tatung to Kwahwacheng and the Yellow River is a hot bed of brigands who defy the officials, who ignore the soldiers, and who regard it as their right to levy toll on every person who feels called upon to travel or who has the temerity to live anywhere but in a walled city. Even when thus protected there is little safety, for when "revenue" is not forthcoming from the wayfarers and the isolated the brigands combine forces and attack some city, capturing and looting it.

It is with regret that we feel called upon to emphasize such a lamentable state of affairs, but we do so in the hope that the officials of the Central Government at Peking, and above all the Emperor-elect, will learn what is in all probability hidden from them by interested maladministrators in the interior. Defenders of Republicanism will require more than books of theory to explain away this grave state of affairs, and on the other hand, unless the Emperor-elect takes steps immediately to extirpate the cancer of corrupt practices in the outlying regions of the country the Monarchists will have to fight hard in the future to justify the new dynasty which they have inaugurated on the ground that better government will be possible and better times will be ushered in for the unhappy farmers and their

*See article on "Likin on the Tientsin-Pukou Railway."

families. Nor does iniquitous taxation and deplorably inefficient policing strike only at the farmers. All trade and commerce is so grossly and insistently obstructed that the marvel is that anarchy does not openly prevail. What trade is done in these regions is done in spite of the *soi-disant* protectors, and superficial order is kept among the toilers not as a result of the administration of the law, for there is but lawlessness, but simply because of the innate peacefulness of the long-suffering people.

Ample justification will be afforded the Monarchists, however, if strong measures are inaugurated to exorcise the curse that seems to hang over so much of the country. And the measures that might be taken to this desirable end are so simple, so easy of adoption, and so fraught with immediate benefits that it is difficult to understand why they were not introduced long ago. The excuse given by Peking has been that the alleged liberty and equality which are supposedly the public right under a Republican form of Government have been misinterpreted as individual license to disregard laws, or to interpret them as suits the individual taste, and to regard as an equal the Chief Executive of the State.

We do not admit, however, that Republicanism in China has been given a fair trial. It has not. It has failed, first, because the people are ignorant, and, secondly, because Young China developed no leaders with capacity properly to inaugurate the new regime. What masqueraded as Republicanism was a Dictatorship, and Young China could take no steps successfully to supplant it with the ideal conditions which constitute their dream. Their efforts have painfully proved the old dictum that attempts at reform which fail simply strengthen despotism. A mass of evil has sprung into being which we fear cannot be removed except by what Young China regards as a step backward, and we take it that since the young enthusiasts must have the state of their country really at heart they will be more than glad, if they are wise, to see some semblance of legality bestowed upon a form of government which is at once obnoxious to them in its illegality and irremediable by any other means. Those in power under the pseudo-Republic, supported by a large public opinion, both Chinese and foreign, are convinced that the evils which have sprung up in recent years cannot be extirpated without a change in the form of government, and if that be true and the suggested change can efface them it is better that it take place immediately and be supported by all Chinese for the sake of the future of their great country. It has been argued by those who are in power that monarchical rule will bestow the authority necessary to enforce laws as they should be enforced. That remains to be seen, but in lieu of other means the test should be permitted and be supported. Much, however, depends upon one man. It is averred that he could have accomplished more as President. He on his side indicates that beyond a certain distance he could not go, but now the great onus is directly upon his shoulders of proving that under a Monarchy the elements that exist in China for the establishment of a properly governed State will be wisely used and promptly employed. Out of comparative chaos it is for him to devise the means to produce order, and if he is able to reform conditions he will have earned his throne a hundredfold and will have merited the unquestioning allegiance of all his subjects. Great tasks lay ahead to be done, and the outstanding one is the regulation of taxation, the crying evils of the irregularity of which constitute the opening phase of this article.

Bold and courageous action must be taken at once by the Emperor-elect to prove to the people of China and the nations at large—who are keenly interested spectators of the drama unfolding in this land, despite the devastating war upon which most of them are embarked—that the mere glamour of a crown, is not what alone attracts. He must have a strong arm to strike for an extended range of civil privileges, for a broader basis of government and for the general well-being of the great masses who are destined to toil and to suffer under existing conditions. There must be an earnest development of commerce and industry, an uplifting of mental and moral qualities by systematized and wider education, and above all the inculcation of the understanding that the official holds his office for the good of the

people rather than for his own personal aggrandisement. A weak man might well tremble at the thought of the great work that lies ahead to be performed. Yuan Shih-kai is credited with being a strong man—the only strong man China has produced in recent times. Hitherto he has enjoyed the advantages of the excuse of lack of freedom of action in effecting widespread and radical reforms. Such excuses do not now exist, and having risen to the highest place of power and privilege any State can offer it is to be expected that deeds will replace the words of the past, and effective steps will be taken to elevate China to the level she ought to occupy in the comity of nations. Dilatoriness on the part of the Emperor-elect now will but condemn him in the eyes of his own people and those of other nations, but those who know Yuan Shih-kai best assert without reservation that he is anything but slothful. Determination is the quality that has elevated him to his high position, and unless he has absorbed it all in his long climb upwards it is but right to assume that his talents will soon have full play in the best interests of his country.

First on his list of reforms he should place the regulation of the finances. A progressive, modern educated Minister of Finance should be installed to reform taxation. Expert foreigners with administrative experience should be employed and endowed with executive power to regulate collections, to systematize accounting and to contrive that all moneys belonging to the State should go to the use of the State and not partly to individual officials. Irresolution with regard to reform of currency should be replaced by activity under expert guidance, aiming first at standardising the dollar throughout the country. More than half of China's woes have been caused by the haphazard character of taxation and its oppressive incidence. An ignorant, short-sighted Minister of Finance having power to tax hither and thither has, *ipso facto*, the power to do infinite harm, and the Emperor will do well to inaugurate his reign by bestowing this important portfolio upon a man capable of using the best foreign guidance available for a general reconstruction of the faulty system now in use. And the Emperor-elect should go even further than that: he should see that in the future no Minister of Finance should have the power to impose taxation without the consent and approval of Parliament.

Step by step with reform of taxation should come an absolute change in the police system, and in order to make the administration thoroughly effective the recently promulgated regulations for the civil service should be strictly enforced. To be a better country it is vital that China should have better officials than the majority of those who now inflict themselves upon her. The widest use should be made of the students who have studied abroad, each in his proper place, so that the learning they have acquired might be utilised for the State. There is a belief extant that Yuan Shih-kai is averse to the returned student on account of the alleged revolutionary proclivities of that class. We are inclined to believe that responsibility for this unhappy development is due more to officialdom than to any foreign teaching. Young men have returned from the outer world filled with hope and confident of being able to employ their talents for the improvement of their backward country, merely to meet the cold shoulder of scorn from officials whose ignorance even of what ought to be their simple duties is colossal. Many have found themselves ruthlessly relegated to the background or compelled to follow the course of "old custom" with all its iniquities, and in these, no doubt, the slow fire of hatred of everything connected with the benighted mandarin has smouldered dangerously and has occasionally burst into flame. Yuan Shih-kai, has, however, in the past been the champion of the progressives, and it would be peculiarly strange if now that he mounts the throne via the shoulders of this class he should hesitate to utilise them to the full. One thing the Emperor-elect owes them is the widest consideration, for if China is to progress at all she must do so with the aid of these foreign educated men. Of this Yuan Shih-kai is fully aware, and we hope that it can be taken for granted that the future will see a distinct change from past policies in this connexion. Yuan Shih-kai's own future success depends as much upon it as does the welfare of the country. The returned students do not want power so much as they want

to see those in power adopting progressive measures. If they can participate in a forward programme making for the upbuilding of the nation they will be content, malgre the agitations of the irreconcilables, who, like the poor, are sure always to be with us. Emperor-elect Yuan Shih-kai has it in his hands to become the greatest man China has produced, and opportunity is knocking loudly at his door. The question is: Will he open and give it welcome?

SIR RICHARD DANE

China is to be warmly congratulated upon having prevailed upon Sir Richard Dane, K.C.I.E., to continue his work as Associate Chief Inspector of the Central Salt Administration for a further three years. Sir Richard's existing agreement expires in June next, so the new arrangement means that he will be able to perfect the system which he has been inaugurating the past two and a half years. To acquire a thorough first-hand knowledge of the intricate salt system of China Sir Richard made it his business personally to visit and inspect all the salt production areas, even undertaking the long and arduous journeys involved in a visit to the remote provinces of Yunnan and Szechuan. The knowledge and information and experience by thorough inspection of the sources of supply, coupled with close investigation of the methods in vogue of handling salt and the taxes collected thereon, make Sir Richard invaluable to the Chinese Government in the great work of organizing this important industry. It constitutes China's oldest and greatest source of revenue outside of the land tax, and the result of the reform thus far carried out has been the collection of the highest salt revenue so far actually recorded, the net figures for last year being given in another column in this issue. It is anticipated that a continued increase will mark the further reforms that it is proposed to inaugurate, especially if the Ministry of Finance accords the assistance and unfettered freedom of action which is needed effectively to administer the service. It is pleasing to record that Sir Richard Dane has gained the complete confidence of the Chinese Government and the admiration of all who wish to see this great country become well-established. His peculiar faculty of getting on with the Oriental has stood him in good stead, and what he has been able to do he has done without heart-burnings or bluster. His record is one which has earned him warm gratitude, a fact well exemplified by the following terms accorded him to remain in China:

- 1.—The agreement will be renewed for another three years from first June, 1916.
- 2.—The Chinese Government will pay the sum of £10,000 as bonus to the said Adviser on the termination of the existing agreement.
- 3.—Another £5,000 will be paid to him after the termination of the renewed three years agreement in 1919.
- 4.—Free house will be provided by the Chinese Government.
- 5.—In Provinces where railway communications exist, the Chinese Government shall provide special cars whenever the said Adviser proceeds to the Provinces for the inspection of the various Salt Inspectorates.
- 6.—In order to show the appreciation of the Chinese Government, the travelling expenses of the said Adviser from Peking to England and back shall be paid by China when he returns home to enjoy his well-earned holiday.
- 7.—The Chinese Government shall give seven months' leave of absence to the said Adviser during the continuance of the next three years on full pay.

Nor have Chinese alone to be satisfied that Sir Richard will continue in connexion with the Salt Administration. His presence is a tower of strength to the Bankers who have in hand the interests of the holders of loan bonds secured upon salt revenue. Likewise his performance to-date is an excellent and convincing object lesson to the Chinese Government in the matter of giving responsible foreigners power to institute modern methods. He has proved to the Chinese beyond cavil that a responsible foreigner charged with important and far-reaching work will guard the interests of China as he would those of his own country, and that he will apply himself to the task he has taken in hand as whole-heartedly as if he were connected with the enhancement of his own national wealth and prestige. While felicitating the Chinese upon retaining the services of Sir Richard Dane we might express the hope that more men of his kind be engaged to assist in the re-organization of other important departments of the administration.

THE FINANCES OF CHINA

The war that is shaking Europe to its foundations has necessarily reacted to some extent upon China's finances. The entire cessation of imports from Germany and Austria-Hungary, and decreased production in the countries associated in the Entente, combined with the scarcity of shipping, could not fail to have a prejudicial effect on the revenue from the Maritime Customs. Exchange has also been unfavourable for China. In such circumstances a considerable falling off in the Customs revenue was expected, and general surprise is expressed at the announcement that the decrease has only amounted to Tls. 2,165,000. The total collection reported is in round figures Tls. 36,742,000 (at average exchange 2/7¹/₈ equivalent to £4,764,978) as compared with Tls. 38,907,000 (at average exchange 2/8³/₄ equivalent to £5,309,184) in 1914. The following are in round figures the collections at the principal ports.—

Harbin	Tls.	1,124,000, an increase of	Tls.	84,000
Dairen	"	1,740,000,	"	154,000
Tientsin & Chin- wangtao	"	4,730,000 a decrease	"	291,000
Hankow	"	3,867,000 an increase	"	177,000
Shanghai	"	11,410,000 a decrease	"	651,000
Swatow	"	1,296,000	"	187,000
Canton	"	2,398,000	"	458,000

In view of all the circumstances the Chinese Customs have done remarkably well, and it is satisfactory to learn that all foreign obligations secured upon the revenue from this source have been fully met to December 31, 1915. As is generally known the greater part of China's foreign indebtedness is secured upon the Customs revenue. Apart from the Boxer Indemnity, which calls for about three and a half million pounds sterling for interest and amortization, there are heavy calls for the service of the Japanese War Indemnity loans.

For many years the Customs revenue was the mainstay of China's finances. The Customs was the one department that could be relied upon to turn over to the Government its total collections without improper deductions. While it has in no way lost this praiseworthy characteristic it has now to share its honours with the Salt Gabelle. In fact last year, for the first time, pride of place as the foremost revenue producing department passed to the Gabelle. The increase in the revenue producing capabilities of the monopoly since the Revolution has been remarkable. Owing to the slack and corrupt methods of collection the salt taxes in the Manchu days produced an inadequate amount of revenue, although the gross sum extorted from the consumers probably ran into big figures. Since the re-organization of the department in 1914, which was carried out by Mr. Chang Hu and Sir Richard Dane, the proceeds of the taxes have not been subject to illegal deductions, with the result that the net revenue for the year ended December 31, 1915, was \$69,278,000.

We give hereunder the outstanding figures which show an extremely healthy state of affairs, particularly when it is remembered that the total collection of last year, \$69,278,000, represents *net* revenue, as compared with *gross* revenue in the case of the Maritime Customs figures. These returns show a substantial advance on 1914, when they were about \$60,000,000, and there is every reason to suppose that they are capable of further expansion. The system of collecting a direct consolidated duty before the salt leaves the works or before it leaves depots appointed for its storage and issue to the trade has now been almost uniformly introduced, and it is to this system that the very large and unexpected revenue may be ascribed. It will be noted that after meeting all charges and obligations the salt account closed the year with a balance on the credit side of \$24,385,000, out of which \$6,500,000 was advanced to the government for administrative purposes in the beginning of January, 1916, and a further \$2,000,000 towards the end of the month, leaving a credit balance in the Group Banks of some \$15,885,000. As the bulk of the Boxer Indemnity for 1916 will have to be paid from the salt revenue it is necessary to hold a large balance for the purpose, for which reason larger sums are not released to the government at this time. In 1915 the substantial

sum of \$27,788,000 was paid on behalf of the Indemnity. The amount paid out in connexion with the Reorganization Loan, for which the salt revenue is the security, does not represent all that was paid by the Government, the interest due in the first six months of 1915 being paid from the reserve coupons held by the banks in England. The following is a statement of the Salt Revenue Account for 1915.

Balance in the Banks on January 1, 1915	\$17,328,000
Interest	197,000
Net Revenue collected during 1915	69,278,000
Total	\$86,803,000

Charges and obligations :

Boxer Indemnity	\$23,788,000
Chihli Bond	731,000
Crisp Loan Coupons	2,999,000
Reorganisation Loan	6,932,000
Hupei Bonds	149,000
Miscellaneous Withdrawals	23,000
Releases to Government	27,523,000
Exchange	273,000
Balance @ 31/12/15	24,285,000

Total \$86,803,000

Detailed figures in regard to the revenue from the State Railways is not available, but it may be assumed that even if the income from this source is not considerable it is on the up grade. Many of the lines are already paying handsomely and, when necessary connections and extensions have been made, others will become revenue producers. The war has, of course, greatly interfered with construction work, but it may be anticipated that with the return of peace capital will again become available in view of the splendid returns afforded by investment in Chinese railway bonds. It might be suggested that in view of the excellent results obtained in the Customs and Salt Departments by making use of the services of foreign experts in the actual administration the same system should be applied to the railways. There would be nothing derogatory to the pride of China in the adoption of such a course, and it is certain that great benefits would accrue. Other countries in which the railways are owned by the State have not hesitated to engage the services of foreign experts and to give them full control. In Australia for example, expert Commissioners were engaged in America and given the most comprehensive powers. Japan, also, did not hesitate in the past to make use of the wider knowledge and experience of foreign railwaymen.

The significant fact in regard to China's finances is that she has not only been able to meet all her foreign obligations during 1915, but has also found it possible to set aside sufficient for the service of her internal indebtedness. Her credit consequently has been strengthened and there seems just reason for the belief that she will be able to make ends meet during 1916. The Budget (which we publish elsewhere) provides for the raising of only \$20,000,000 by domestic loans, and no difficulty should be experienced in procuring this sum. It is interesting to note that, according to the Budget, the national revenue for 1916 will be \$471,946,710. Assuming the population of China to be 400,000,000 this means about \$1.18 per capita. The per capita taxation in Japan, according to Japanese statisticians, is about ¥8.7. The difference is striking and suggests that what may be called the financial reserve of China is enormous.

CHINA'S BUDGET

The Central Government of China, having obeyed the "will of the people" in respect of the establishment of a Monarchy, signalled the arrival of 1916 by decorating it with the dynastic name of Hung Hsien, and by providing a budget to cover its financial possibilities. In the course of a Mandate promulgating the Budget it was said: "Since the promulgation of the Budget of the First Year of Hung Hsien, all the officials concerned should remember that the Government funds are collected from

the 'blood of the people.' The saving of one cent in the administrative affairs means the accumulation of one additional cent in the financial resource of the people. Therefore all the officials are hereby instructed that all the receipts and expenditures should be managed in strict accordance with the stipulations in the Budget, and no extravagance or extortion should be tolerated so that the good wishes of the Government in the love of the people and the exercise of economy in respect of the effective enforcement of the constitutional administration may be carried out."

The Budget is as follows:

<i>A. Receipts. Ordinary</i>	
a. Land tax	\$ 95,972,818.00
b. Customs revenues	71,320,970.00
c. Salt revenues	84,771,365.00
d. Goods tax	40,271,368.00
e. Principal and miscellaneous taxes like title deed tax, tobacco tax, wine tax, tea tax, pawnshop tax, etc.	32,341,704.00
f. Principal and miscellaneous duties such as tobacco and wine duties, rice duties, silk duties, butchery duties, house duties, etc. ..	14,067,574.00
g. Government property income like government enterprises, government shares, house and land rentals, etc.	2,621,261.00
h. Miscellaneous income in the provinces like home affairs, receipts, financial receipts, judicial receipts, interest on government funds, etc.	6,927,694.00
i. Central organ receipts like Foreign Office receipts, ministry of interior receipts, ministry of finance receipts, etc.	1,635,464.00
j. Central government direct receipts like stamp tax, tobacco and wine license tax, title deed inspection fee, income tax, etc.	76,306,927.00

Total receipts \$426,237,145.00

<i>B. Receipts. Extraordinary</i>	
a. Land tax and supplementary levyings	\$ 1,580,695.00
b. Customs revenues	847,359.00
c. Goods tax fines	18,716.00
d. Rice duties and miscellaneous duties	4,496,333.00
e. Government enterprise receipts	16,703.00
f. Miscellaneous receipts in provinces, like fines,	338,253.00
g. Central organs receipts	1,359,698.00
h. Central government direct receipts	17,051,868.00
i. Public loans, internal loan, ten million industrial loan, ten million total loans	20,000,000.00
Total receipts	45,709,565.00

Grand Total Receipts \$471,946,710.00

<i>C. Expenditures Ordinary</i>	
a. Ministry of Foreign Affairs	\$3,276,677.00
b. Ministry of Interior	49,653,982.00
c. Ministry of Finance	53,531,625.00
d. Ministry of War	135,813,986.00
e. Ministry of Navy	17,101,779.00
f. Ministry of Justice	7,665,772.00
g. Ministry of Education	12,611,583.00
h. Ministry of Agriculture and Commerce	3,762,244.00
i. Ministry of Communications	1,577,408.00
j. Board for Mongolian and Tibetan Affairs	947,230.00

Total \$285,942,286.00

<i>D. Expenditures. Extraordinary</i>	
a. Ministry of Foreign Affairs	\$ 826,141.00
b. Ministry of Interior	2,105,864.00
c. Ministry of Finance	175,302,789.00
d. Ministry of War	6,438,727.00
e. Ministry of Navy	102,758.00
f. Ministry of Justice	45,572.00
g. Ministry of Education	225,724.00
h. Ministry of Agriculture and Commerce	376,792.00
i. Ministry of Communications	112,783.00
j. Board for Mongolian and Tibetan Affairs	40,000.00

Total \$185,577,150.00
Grand Total expenditures \$471,519,436.00

REVISION OF CHINA'S MINING LAWS

The present Minister of Commerce, Agriculture and Industry, by whom are handled the mining affairs of China, has determined to have the mining regulations revised by experts. A set of regulations was promulgated some time ago, but failed to

meet with a favourable reception, many of them being regarded as unworkable, or at least unacceptable to foreign capitalists. Efforts have been made from time to time to induce foreigners to invest capital and employ their experience in developing mines in China, but unhappily a *modus vivendi* could never be reached owing to the requirements of the laws. The foreign diplomatists also turned their faces against the regulations with the result that there has been practically no advance made in the opening of the mineral wealth of the country. So incessant has the demand been for a revision that Mr. Chow Tze-chi has determined to see what can be done, and with the object of having the best talent available he has secured the services of Mr. Lindsay, K.C., who has had wide experience in mining law and its application in various parts of the world, and who was engaged as legal adviser by the British financial group composed of Messrs. Pearson and Son, Ltd., the British and Chinese Corporation, Ltd., and the Central Mining and Investment Corporation, Ltd., in connexion with their negotiations with the Chinese Government for mining rights in the province of Szechuan. In the work of revision of the mining laws Mr. Lindsay will have co-operating with him Dr. Anderssen and Mr. A. S. Wheler, the advisers to the mining department.

REDEMPTION OF THE "HONGKONG GOVERNMENT GOLD LOAN OF 1905"

It will be remembered that in order to redeem the franchise for building the Canton-Hankow Railway from the American-China Development Company, some eleven years ago, the Chinese Government had to buy up the shares of, and the gold-dollar bonds issued by that Company. For this purpose, the Government borrowed £1,100,000 from the Hongkong Government. In the Agreement it was provided that besides paying interest half-yearly, the repayment of principal should be made by ten equal instalments, payable once every year. These obligations have been punctually met by the proper authorities during the last ten years. The last instalment of principal and interest, which became due on December 6th, 1915, was also duly paid by the Ministry of Communications and the Kuangtung Railway Company; so the so-called Hongkong Government Gold Loan of 1905 of £1,100,000 is now entirely liquidated.

THE FOSSILISED DRAGON

In connexion with the story of the discovery of supposed fossil remains of dragons in a cave on the Yangtze River near Ichang, which we published in last issue, the following Mandate issued by the President may prove of interest:

"Wang Chan-yuan and Tuan Su-yun (Chiangchun and Governor of Hupeh) in a telegraphic memorial state that they have received from the Chamber of Commerce, the Directors of Schools and the local gentry, in Ichang, a petition in which it is stated that 'Recently some Europeans have entered deeply into the Shen-k'an (Divine Inclosure) cave and discovered in it a stone with the shape of a dragon lying coiled on the ground about more than 50 Chang (500 Chinese feet) in length. Study reveals that this is the remains of a real and living dragon in ancient times which afterwards transformed itself into a stone fossil. This discovery signifies the dawn of a new era like the rising of a dragon and the laying of the foundation rock of the dynasty for myriads of ages. Moreover, the timely appearance of the stone remains of the divine dragon on the bank of the River is a sign of the grace of Heaven and the rejoicing of the people on earth over the present issue of the Government. Therefore, it is sincerely requested that the Chiangchun and Governor of the Province should telegraphically report this phenomenon to the Throne to be recorded by the Historiographical Bureau so that the incident may reach the knowledge of future ages as an appreciation of the favour of Heaven and the wishes of the people, etc.'

"From ancient times to the present moment the prosperity of a country invariably depends upon the exercise of care, diligence, caution, and discipline on the part of the ruler. It is

only by the proper reform and enforcement of the administration that every individual of the people will receive benefit from the Government. The mere talk of emblems and influence of good omens, such as in ancient times the appearance of the Yellow Dragon, the coming of the Divine Birds, and the calling of Phoenix, and the falling of the Sweet Dew, which, taking place in various dynasties, have really no bearing whatever upon the peaceful administration or otherwise of the country. In now-a-days when every line of science has been greatly advanced, everything should be studied according to the truth, how can it be possible still at the present time to discuss and make much of what is merely a matter of superstition and to infer therefrom the emblem of peace and prosperity? Consequently the request to have the discovery of the stone dragon recorded by the Historiographical Bureau as a sign of good omen, shall not be considered. This relic discovered in a deep cave among the high mountains may offer a good subject for scientific study. Therefore, the Chiangchun and the Governor of the Province should instruct the local authorities to carefully protect and preserve this fossil for the examination and study of geologists. As the question of misery and welfare connected with the lives of the people is constantly in my mind, I (the President) start my daily work early in the morning and continue meditating in the late hours of the night in the sole hope that the mass of the people may have happiness and prosperity, and these are signs of a good omen. It is sincerely expected that all the civil and military authorities, scholars and gentry will take note of and appreciate my view regarding the discovery."

FORESTRY EXPERTS FOR CHINA

In previous issues of this journal we have referred to the steps being taken by the present Minister of Commerce, Agriculture, and Industry, Mr. Chow Tze-chi, to inaugurate a system of reafforestation. A new bureau has been established in connexion with the Ministry solely to deal with this work; and to facilitate progress and have programmes systematised two foreigners have been appointed who have been selected for their knowledge of afforestation methods. One is Mr. Sherfese, who has resigned from the Directorship of the Bureau of Forestry, Philippine Islands, to become Co-Director of the Chinese Bureau of Forestry, and the other is Mr. William Purdom, who has had wide experience not only at Kew Gardens, England, but for the past six years in the provinces of northern China. In this respect his practical knowledge should prove of very great benefit to the government, acquired as it was in actual work in the fields searching for plant life for scientific organizations. His intimate knowledge of the possibilities of aboriculture in northern China can be put to immediate use, as a consequence of which the government should be able to obtain results much earlier than would otherwise be possible. The engagement of these two practical men is an earnest of the government's intention to tackle the important work of planting the vast bare spaces of China, a work which has cried for generations for attention but which up to now has been utterly disregarded.

Temporary regulations for the Forestry Department were published on January 21. They provide that the Vice-Minister of Agriculture and Commerce shall act concurrently as Director of the Department of Forestry and he shall be assisted by two Assistant Directors, and experts in afforestation. The various provinces and Special Administrative Areas are to be regarded as Afforestation Areas for the time being, and in each one a special official is to be appointed to manage afforestation affairs, under the direction of the Governor and the Director of the Forestry Department. The provincial expenditure on afforestation is to be provided for in the budget of the provinces, and each Hsien (or district) is instructed to make a contribution of more than \$200 annually for the promotion of plans for the cultivation of forests. The Forestry Department is to be responsible for the improvement of the revenue of the forest tax, and is to submit to the Throne suggestions for the procedure, etc., in connexion with the collection of timber taxes. The Forestry Department is to be divided into five sections, the staff of the various sections to be arranged according to the sum provided for in the annual budget of the Department.

THE "OPEN DOOR" IN KOREA

Japan's Studied Abrogation of a Policy to which She Solemnly and Explicitly Pledged Herself

The following striking exposure of the manner in which Japan has studiously laboured to exclude foreign interests from Korea, in which country she pledged herself to maintain the "open door" is taken from the "Japan Chronicle," a British newspaper published in Kobe, which enjoys the distinction of being regarded as the highest authority on Japanese affairs printed in Japan:

It will have been seen from statements made in our columns that a further step has been taken in the direction of confining the commercial exploitation of Korea to Japanese subjects. By the revised Mining Ordinance relating to Korea recently published, mining rights will henceforth be denied to foreigners. Under the Mining Law hitherto in force, mining concessions were granted to foreigners as well as to Japanese subjects, and many foreigners have been engaged in mining enterprises in the peninsula not only by virtue of that law, but as the result of concessions granted under the former Korean Government and the declaration of the Japanese Government when taking over control that there was no intention to interfere with the commercial interests of foreigners in the country. There can be no question as to the explicit nature of the assurances then given. In a statement made in a Japanese official document, the "Annual Report for 1907 on Reforms and Progress in Korea," it is declared that "the so-called 'open-door policy' in Korea has been from the very beginning maintained by the Japanese Government.

"In both the treaties of alliance between England and Japan, concluded on January 30th, 1902, and on August 12th, 1905, respectively, adherence to that policy was a fundamental keynote of the engagements. *In the latter treaty especially Japan solemnly and explicitly pledged herself to observe the principle of equal opportunities for the commerce and industry of all nations*, while Great Britain recognised the right of Japan to take measures for 'the guidance, control, and protection of Korea.'" Let it be noted that these are the words of a Japanese official publication. The same authority proceeds:—"Although Japan, in accordance with the Convention concluded on November 17th, 1905, assumed the entire control of the foreign affairs of Korea, and undertook the duty of watching over 'the execution of the treaties actually existing between Korea and other Powers,' five days after the conclusion of this Convention—namely, on November 22nd, 1905, a Circular Note was addressed to the Treaty Powers, in which the Imperial Government of Japan declared that 'in assuming charge of the foreign relations of Korea and undertaking the duties of watching over the execution of the existing treaties of that country, they will see that those treaties are maintained and respected, and *they also engage not to prejudice in any way the legitimate commercial and industrial interests of these Powers in Korea.*'"

Again, be it noted, these words are from a Japanese official publication. Now the only industrial interests of any importance in Korea in which foreigners have been engaged, with the possible exception of the manufacture of tobacco, which has already passed into Japanese hands, are those pertaining to mining. How, then, can the denial of mining rights to foreigners be consistent with those solemn and explicit assurances that Japan has pledged herself to observe the principle of equal opportunities for all nations? It is declared, by way of apology, as it were, that the provision denying mining rights to foreigners applies to the future alone, and that foreigners already in possession of mining rights will be allowed to use and retain them for any length of time in the future. Because the denial of such rights in the future is not also accompanied by a policy of confiscation in the present, it can scarcely be regarded as a justification. It does not affect the issue that to deny foreigners mining rights is an infraction of the principle that equal opportunities shall be afforded the commerce and industry of all

nations. Nor, assuming it to be true, as is asserted by the *Seoul Press*, that in Europe and America mining rights are seldom granted to foreigners, can this be held to be a justification for abrogating a policy to which Japan has "solemnly and explicitly" pledged herself? We do not know how the matter stands in America, where the various States have different laws, but in England there is no prohibition against the working of mines by aliens, and even in Spain, which is sometimes called a backward country, this particular form of narrow anti-foreignism does not exist. But, as we say, the argument is quite irrelevant, whether the statement on which it is based is accurate or not. A man who makes a contract, or gives solemn and explicit assurances that he will do or refrain from doing certain things, cannot be regarded as absolved from those undertakings by a variation in the contracts or assurances of other parties.

In order to show that if Japan is not maintaining the letter of her undertaking she is observing the spirit, it is further declared that "Although the acquisition of mining concessions in Korea has thus been forbidden to foreigners, they may acquire that right as partners of a legal person organised in conformity with the law of Japan, and so foreigners may still come into possession of mining rights in Korea, though indirectly, after the revised law has been put into force." Then what is the object of denying foreigners mining rights in Korea? Why are foreigners barred out by the front door and allowed come in at the back? It reminds us of the answer the Rev. Sidney Gulick makes American criticism that Japan should be the last to complain of prohibitive land-holding legislation, seeing that she denies foreigners the right to own land in their own names. Oh, says the reverend gentleman, that is not true; foreigners can own land if only they organise themselves into a legal partnership. They must first, as it were, take part in a legal fiction, and they can then obtain rights that Japanese are freely granted in other countries. The acquisition of rights by legal fiction does not appear either a safe or a satisfactory method of land ownership. What is the virtue possessed by a juridical person which enables such a partnership to do what an individual is prohibited from doing? What is the object of such a distinction? Surely it will not be suggested that an individual who owns land or acquires a mining concession is more dangerous to the State than a corporation? If extra-territoriality prevailed in Japan or Korea, the reason for the distinction would be easily understood, for while an individual foreigner would be subject to the law of his country, a partnership organised and registered under Japanese regulations would be subject to Japanese law. But no such distinction prevails. Extraterritoriality is a thing of the past so far as Japanese territory is concerned, and the individual foreigner equally with the registered foreign partnership is subject to Japanese law. It is really very difficult to understand the object of prohibiting foreigners from holding land or obtaining mining rights in their own names, while permitting both rights to be secured by organised groups of foreigners, unless the action taken is merely a stage in complete prohibition. Once the principle is established that foreigners as such are denied mining or landholding rights, it would only be a logical step to decree further that corporations of foreigners or juridical persons, organised for such purpose, are illegal, as their object contravenes the established principle.

It will be seen that the Japanese authorities in Korea have placed themselves in this dilemma. Either the prohibition of the holding of mining rights by foreigners is a limitation of the industrial freedom of aliens in the peninsula, or it is destitute of any meaning and has been promulgated for no purpose whatever. If the latter be the correct interpretation, there is no more to be said save that it is unusual for the Japanese authorities to issue notifications that are meaningless. If the former be the intention

and object of the proviso, then Japan is departing from what she has acknowledged in an official publication, issued by the Japanese authorities in Korea, to be a solemn and explicit pledge for the maintenance of the "open door." So far as the Anglo-Japanese Treaty of Alliance of 1905 goes, there can be no question that the recognition by Great Britain of Japan's paramount political, military, and economic interests in Korea was made contingent on Japan's pledge that any measures taken to safeguard those interests should not conflict with "the principle of equal opportunities for the commerce and industry of all nations." When a Japanese official publication itself declares that this provision of the treaty was a "guarantee of alien rights" and a "solemn and explicit pledge" for the maintenance of the "open door," a policy that constituted a "fundamental keynote" of the engagements into which Japan had entered, we do not see what justification can be offered for the step which the Japanese authorities in Korea have now taken to exclude

foreign mining enterprise from the country so far as the wording of the law is concerned, though for the time being permitting it to enter in what may be called a clandestine fashion. To the Chinese it will seem curious that within a few months of the time that Japan has insisted on the extension of mining rights in Manchuria and Mongolia to Japanese, a notification should be issued in Korea denying mining rights to foreigners, including Chinese. To them it must appear a somewhat curious example of reciprocity. No doubt the question is now engaging the attention of the British diplomatic authorities and the Japanese Foreign Office. It is clear from the considerations we have set forth that the prohibitory clause in the Korean Mining Ordinance is quite incompatible with the pledges which it has been officially acknowledged that Japan has given. When this is once made clear to the Japanese Foreign Office, we have no doubt the provision excluding foreigners from mining rights in Korea will be withdrawn.



TUL MI CHUNG MINE OF SEOUL MINING CO.



ROAD TO PLANT AT TUL MI CHUNG

THE SEOUL MINING COMPANY

The following Report of the Directors for the year ended December 31st, 1914, was submitted to the Shareholders at the Ordinary General Meeting held at the office of the company at Deep River, Conn., U.S.A., on October 18th, 1915:

Capitalization.

The Capital remains at \$500,000. During the year the Company has borrowed from its shareholders the sum of \$250,000 for the purpose of erecting the Milling Plant at Tul Mi Chung, as announced in the Directors' Report for 1913, and to continue an active development policy.

The erection of the electric power plant has been completed under the capable direction of the Managing Engineer of our Electrical Department, Mr. H. Maki, and is performing its full expected service with complete regularity.

The sanguine reports and early predictions made by Mr. E. W. Mills, Superintendent of Tul Mi Chung, the discoverer of the mine, have already been more than realized and under his efficient superintendence it continues to rapidly increase in value every month. The ore reserves already opened up at Tul Mi Chung contain a gross value of \$12,000,000. The milling plant is in course of erection and in the absence of mishap it is hoped will commence service in July.

Good progress is being made in prospecting and geological examination and substantial results are confidently expected. In order that

the General Manager should obtain the highest professional advice in this very important work, the services of Mr. J. Malcolm MacLaren, late Mining Specialist, Government of India, formerly Assistant Government Geologist, Queensland, &c., have been fortunately obtained, and that gentleman is now examining the Concession District. The indications pointing to a successful opening up of exceedingly large low grade ore deposits at Sactarie, quite close to the Suan Mill, are very encouraging, in addition to several other places.

During the year 74,550 tons of ore were milled, the gross receipts amounted to \$703,701, and the net earnings to \$413,301. The operating costs were reduced 23 cents per ton of ore below 1913. The ore reserves, as estimated in February, 1915, are 1,206,133 tons, and contain a gross value of \$15,014,375, comparing with \$7,615,948 in February, 1914. It is worthy of note that in the present estimate copper is calculated at only 12 cents per lb. During the year the Ore Reserves at Tul Mi Chung have trebled in tonnage and value, increasing from 317,809 tons to 963,600 tons. The development at Suan was not so satisfactory and the continuity of the ore deposit in depth below the sixth level has not yet been proved, but the General Manager's report states that the mine workings are now reaching the ore zone.

The flotation treatment addition to the Suan Mill was completed in May, 1914, and since then has yielded very satisfactory results, exceeding the estimates submitted at the time

the directors authorized the erection of the flotation Plant. The substantial progress made in 1914 has induced the General Manager to call attention to the probable necessity of increasing the capacity of the Tul Mi Chung Milling Plant, and also of the Electrical Power Plant. At the time these Plants were authorized it seemed evident that they would meet all necessities for several years to come; however, space provision was made at the time of their construction for future enlargements.

The sum of \$20,000 has been written off on account of depreciation. An Interim Dividend of 25% was distributed in November, 1914, and after providing for depreciation and all Royalties, there is a balance remaining of \$252,106. Out of this sum a second dividend of 25% was distributed on May 29th, 1915, and \$18,000 provided for Administration Costs, leaving a balance of \$109,106 to be carried forward to the next year's account.

Since Milling Operations commenced in 1910 the following dividends have been paid:—1910, 25 percent; 1911, 50 percent; 1912, 50 percent; 1913, 50 percent; 1914, 50 percent.

The report was signed by H. Collbran, President of the Company.

Suan Concession, Holkol, Chosen (Korea)

The following report of the workings of the Suan Concession was presented for the year ended December 31st, 1914: The year's work afforded an operating profit of \$413,300.87. The Suan Mine Ore Reserve stands at 236,530

tons, valued at \$3,040,850 after 82,472 tons were taken from the mine for the mill. The Tul Mi Chung Mine Ore Reserve was increased during the year to 963,600 tons (including some ore not yet fully blocked out) valued at \$11,904,645.00. A combined Gold and Copper extraction of 80.04% was obtained at the Suan Mill as against 72.65% for the previous year, the copper extraction being increased from 20.5% to 56.2%. The Pyeng Yang Electric Power Plant has been completed and the change from steam to electric motive power was made early this year.

Excellent results were obtained from the Prospecting work conducted elsewhere on the "Collbran Contact," notably at the Kyung Chai Kol and Tuck Kol Prospects where 6,000 tons of ore carrying \$1.40 per ton and 4.2% Copper were developed, and at the Soctarie Prospects where it appears an enormous tonnage of low grade ore will soon be available. The coming year gives every promise of exceeding the results obtained any previous year and can be looked forward to with much interest. The operating costs, viz., \$3.90 per ton of ore milled, show a decrease of \$0.23 per ton as compared with the costs for the previous year.

In the Suan Mine, the total development work, consisting of Tunnels, Drifts, Winzes, and Raises amounted to 7,138 feet, which, added to the previous 28,563 feet gives a total to December 31st, 1914, of 35,701 feet. Early in November a large flow of water was encountered in Level No. 6, with which the pumps were unable to cope, making it necessary to discontinue the work on this level. A large pump is now being installed and the development work will shortly be resumed. On account of the greater quantity of water to handle it was necessary to draw heavily on the broken ore reserves, which were decreased from 53,335 tons to 35,606 tons. The ore reserve at February 15th, 1915 was as follows:

	Tons	Gold \$ per ton	Copper %	Bismuth lbs. per ton	Gross value per ton	Gross value
Positive	185,180	\$9.07	1.15	1.7 lbs.	\$12.87	\$2,384,123.00
Probable	51,347	\$9.37	1.0	1.7 ..	\$12.79	656,728.00
Total	236,536	\$9.13	1.12%	1.7 lbs.	\$12.86	\$3,040,851.00

Distribution:—Gold, \$2,160,785.00; Copper, \$638,799.00; Bismuth, \$241,267.00.

[Ton, 2,000 lbs.; Copper at 12 cents per lb.; Bismuth at 60 cents per lb.]

The "Central Ore Body" has now been worked out and the "Western Ore Body" reduced from 19,750 tons to 7670 tons. The net increase of 3,500 tons was confined entirely to the "Eastern Ore Body." No ore was developed on Levels Nos. 5 and 6 during the year but these workings are now reaching the ore zone and will prove whether or not the main ore body or additional ore lenses will be found with depth. Prospecting to the north-east of the "Eastern Ore Body" indicates the existence of another ore lens in this direction.

Stoping:—The 74,450 tons of ore milled for the year obtained from above adit Level, 37.4 per cent; below adit level, 62.6 per cent.

A larger quantity than usual of low grade ore was milled during the year from the upper workings, viz., 37.4%, but in spite of this the gold value of the ore milled was only \$0.20 per ton below the average value of the reserve. As only 17% of the ore reserve remains above the main adit level you may confidently expect a substantial improvement in the grade of the ore milled this coming year.

In ore sorting 7,922 tons were discarded as waste in the sorting house, which represents 9.6% of the ore received from the mine. The cost for sorting amounted to \$3,708.87 or 4.97 cents per ton of ore milled, and assuming the discarded waste had no value, the ore sorting had the effect of increasing the gold content of the ore milled \$0.86 per ton.

The actual running time of the mill was 338 days, 15 1/3 hours (or 92.77%), 74,550 tons of ore being treated, as against 327 days, 17-1/2 hours (89.63%) and 71,535 tons for the previous year. The stamp duty per 24 hours

Working and Profit and Loss Accounts for the Year Ended 31st December, 1914

Dr.		Cr.	
To Mining Costs	... .. \$102,130.06	By Bullion Proceeds...	... .. \$485,219.07
„ Sorting and Transportation of Ore...	... .. 7,109.01	„ Concentrates:—	
„ Milling Costs	... .. 74,713.14	1,472.40 tons	... .. 215,962.08
„ Balance Carried Down	... .. 519,749.54	„ Ore Proceeds	... .. 2,520.00
	<u>\$703,701.75</u>		<u>\$703,701.75</u>
„ General Expense...	... .. \$67,600.92		
„ Concentrate	... .. 38,847.75		
„ Royalties and Taxes	... .. 10,446.75		
„ Balance Carried Down	... .. 402,854.12		
	<u>\$519,749.54</u>	„ Balance Brought Down	... .. \$519,749.54
„ Royalty payable to the Korean Syndicate, Limited	... .. \$32,228.33	„ Balance Brought Down	... .. \$402,854.12
„ Directors' Fees	... .. 18,000.00	„ Interest, Discount, and Exchange	... .. 4,597.40
Following declaration of interim dividend of 25%, but not including anything due on declaration of final dividend.			
„ Buildings and Improvements, &c. :—			
Amount written off	... .. 18,310.66		
„ Depreciation on Mines and Property	... .. 20,000.00		
„ Balance	... .. 318,912.53		
	<u>\$407,451.52</u>		<u>\$407,451.52</u>

was 5.5 tons. After a series of tests a flotation process was installed for treating the pulp from the tube mills. This was put in operation toward the end of April and the copper extraction was then increased from 20% to about 75% and the gold from 82% to about 88%. The total yield from the mill was \$701,181.75 as against \$671,536.63 for the previous year.

The total ore reserves with copper calculated at 12 c. per lb. was:

	Tonnage	Estimated Gross Value
Tul Mi Chung,		
February 1st, 1915	963,600	\$11,904,645
Suan		
February 15th, 1915	236,533	3,040,850
Kyung Chai Kol,		
February 15th, 1915	5,000	55,040
Tuck Kol,		
February 15th, 1915	1,000	13,840
Total... ..	1,206,133 Tons	\$15,014,375

Electric Power Installations

The Power Station at Pyeng Yang, transmission lines and motor installation were not completed until the end of the year on account of the high floods, which delayed the transportation of the material and washed away a section of about 100 poles of the transmission line. Early in the present year the change from steam to electric motive power was effected at the Suan Mine and Mill and the plant is now working very satisfactorily.

Up to the end of the year a total of \$377,104.57 has been expended for the Power Plant at Pyeng Yang, transmission line to the Suan and Tul Mi Chung Mines, sub-stations, motor equipment at the Suan Mine and Mill and the Motor equipment for the Tul Mi Chung Mine and Mill (the latter have yet to be installed).

With the use of electric power at the Tul Mi Chung Mine and Mill it is expected the cost of power on the Concession will be less than \$50.00 per horse-power year, as against the previous steam-power costs of \$110.00 per horse-power year.

Recommendations of General Manager A. H. Collbran were as follow:

"It is evident that in the near future you will be warranted in providing for the installation of a second unit at the Tul Mi Chung Mill, but it will be advisable not to do this until the first unit is in operation. This will require the addition of another 1,000 K.W. unit at the Pyeng Yang Power Station.

"The field for prospecting presents unlimited possibilities and this work should be pushed with the greatest vigour. The Nam Nori Prospects will be placed under individual foreign supervision and the development work continued with depth. The Soctarie Prospects require a large amount of work and the development will be concentrated at the most favourable points."

The Tul Mi Chung Mine

The development of the Tul Mi Chung property has progressed most consistently and has resulted in a large increase of the quantity and value of the ore reserves. During the year the sum of \$229,456.87 was expended for this work and for surface improvements. At the end of the year the capital expenditure stands as \$358,647.77. A total of 11,958 feet of driving, crosscutting, sinking and raising was done for the year which, added to the previous footage, gives a total of 22,172 feet up to December 31st, 1914. Two new ore bodies were developed during the year, one in Tunnel No. 6 and one in Tunnel No. 1, making seven ore bodies or lenses in all. Level No. 1, the deepest working on ore, is in excellent condition and is giving great promise.

Dr.	Balance Sheet, December 31st, 1914.		Cr.
To Capital (Authorized and Issued) :—	By Mines and Property :—		
20,000 Shares of \$25 (U. S. gold) each	\$500,000.00	\$500,000.00	As per last Balance Sheet \$340,000.00
„ Premium on 4,000 Shares	400,000.00		Additional Ex- penditure ... 13,187.60
„ Issue of \$250,000.- 00 8% Coupon Notes :—			353,187.60
First half issue, dated 1st August, 1914	125,000.00		Less Deprecia- tion 20,000.00
„ Sundry Creditors	180,131.02		333,187.60
„ Profit and Loss Account :—			„ Tul Mi Chung Mine Develop- ment 358,647.77
Balance as per last Balance Sheet...	188,411.01		„ Electric Power Installation ... 377,104.57
Add Korean Syndicate parti- cipation in Tul Mi Chung Ex- penditure for 1912	2,825.70		„ Prospecting ... 20,493.22
	191,237.70		„ "Collbran Con- tact" Survey ... 1,733.64
Less Final Divid- end of 25% for 1913, making 50 % for the year	115,043.75		„ Contribution to Government Roads 10,000.00
Directors' Fees 36,000			„ Metallurgical Examination, Cables 11,548.87
Less Paid on de- claration of in- terim dividend...	133,043.75		„ Concentrates in Transit and in Hand... .. 161,352.99
Net Balance car- ried forward to 1914 account ...	58,193.95		„ Sundry Debtors Store of Mater- ials and Stores on Hand 76,008.40
Add Profit for the year as per statement ...	318,912.53		„ Cash at Banks and in Hand .. 87,710.56
	377,106.48		
Less Interim Dividend of 25 % declared in November, 1914	125,000.00		
	252,106.48		
	\$1,457,237.50		\$1,457,237.50

To the Directors of The Korean Syndicate, Ltd.

We have examined the above Balance Sheet of the Seoul Mining Company with the books, vouchers, and accounts of the Company, and have obtained all the information and explanations we have required.

Subject to our Report to you of this date, in our opinion, such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the Company's affairs, according to the best of our information and the explanations given us, and as shown by the books.

(Signed) LOWE, BINGHAM & MATTHEWS,

Auditors.

Electric Power Plant—Report for 1914.

The report of Mr. H. Maki on the Power Plant follows:

The early part of the year was not suitable for out-door work on account of the weather but telephone communication was established between Holkol and the Pyeng Yang Power Station and the erection of the steel work for the power house building was completed during May. The reinforced concrete stack was begun in April and completed in June. The extraordinary rise in river at the power plant site caused a month's delay in the transportation and landing of the machinery. Also construction material was delayed in being transported from Japan and from Tsingtau on account of the withdrawal of steamers due to the war outlook. The work was hastened by 13-hour working days. The establishment of a police service at the plant site prevented any loss of material or supplies.

The transmission line from the generating station to the Half Way House was completed in May and the extraordinary flood in July washed away four miles of the transmission line near the Half Way House. Some of these poles were later found at Pyeng Yang

and at Chinnampo. A re-survey of the transmission line was made and the destroyed section of the line was moved to the side of the valley upon some higher ground. The second flood which occurred, caused no further damage.

At the time of the flood some of the equipment was being transported up the River to Tam Bowie and the heaviest transformers were under water when placed 15 feet above the usual water level of the river. These were carefully dried out at the Soctarie Sub-Station and no injury was done. All insulators used on the line were carefully tested at the factory with three times their normal voltage. The wires were strung with a suitable sag to stand the cold weather. The severe cold, 33 degrees below zero (Centigrade) did not cause a single break to wires or insulators at the full voltage of 44,000.

The telephone wires are twisted every ten poles and for facility for inspection switches are provided for the use of a portable telephone every three miles and regular telephones are installed every eight miles. The power wires are divided into six sections at which points disconnecting switches are provided and

a complete twisting of the wires is made in order to balance the circuit. The telephones give good service without the humming noise. The transmission line was completed and made ready for use in October.

The Generating Station equipment consists of 3 batteries of water tube steam boilers with superheaters and chain grate stokers, 2 steam feed water pumps, 2 steam feed water heaters, and 2 stoker engines.

In the Generating Room are two 1,000 R.W. turbo generating sets with direct connected exciters, five switchboard panels mounted with instruments to control electric power and speed of turbines, one outgoing 44,000 volt electric driven oil switch, four 400 K.V.A. power transformers, four 30 K.V.A. auxiliary motor transformers, two Electric motor driven surface condensers, two Electric motor driven intake pumps, one Electric motor driven 5-ton wharf crane, one 12-ton travelling crane and one Small workshop with lathe, drill, &c.

One wooden pole line was erected for the transmission of 44,000 volts, 3 phase current from generating station to Pami Chung, a distance of 34 miles, from which point the lines diverge to the Soctarie and the Tul Mi Chung sub-stations, where the voltage is stepped down to 440 volts for the motors. The Soctarie sub-station is equipped with four 150 K.V.A. power transformers, four 150 K.V.A. stepping down to motor voltage transformers, three switchboard panels with instruments to control incoming and outgoing power and measuring instruments, and 16 different sized mill motors with panels.

The Holkol sub-station is equipped with four 75 K.V.A. air compressor motor transformers, two panels with instruments for controlling incoming power from the Soctarie sub-station and synchronous motor of 210 H.P. for air compressor.

The Tul Mi Chung sub-stations are in course of construction and the power and telephone lines completed, having passed the Government examination.

The generating station was ready to operate one 1,000 K.W. generating set in October, having passed the Government examination and also the hydraulic test for the boilers at double working pressure. Under a special permit from the Authorities power was transmitted previously to dry the transformers, while the generating plant transformers were dried by hot air and electric power. This was a very slow but safe process. During December the regular Government permit was given to operate the entire system, each turbo unit having been successfully tested at a 25 percent overload for three hours and its performance attracted the admiration of the Inspectors. The transmission line and sub-station equipment stood the test in accordance with the electrical regulations and not a single break or other disturbance occurred.

IMPORT SALT TO CHOSEN

Chosen imported during last November 22,495,900 *kin*, worth Y101,190, of salt. The grand total since the beginning of the year amounted to 176,260,900 *kin*, worth Y789,233. Shantung and Kwantung salts contributed the largest shares. About Y250,000 worth of salt is smuggled into the Peninsula from Takushan way through the medium of the Korean fishermen operating off the mouth of the Yalu and off the northwestern coasts of Chosen. The aggregate imports for the 11 months exceed Y1,000,000 and compared with the corresponding period of last year an increase by about 60,000,000 *kin* is noticed. Adding to the above the amount to be shipped during the current month, an excess of 70,000,000 *kin* is believed to be experienced over the previous year. During the latter half of 1914, the export of Shantung salt was necessarily suspended because of the siege of Kiaochow, whilst the business was revived on the return of Spring as order was restored in the war zone in Shantung.

THE JAVA CANE SUGAR INDUSTRY

The report of the Netherlands East Indian San Francisco Committee of the Department of Agriculture, Industry and Commerce on the Java Cane Sugar Industry shows a rapidity of growth almost startling. In 1888 Java's total production was estimated at 300,000 long tons. Ten years later it had reached 700,000 tons and twenty years later it reached 1,200,000 tons and in 1911 it had reached over 1,400,000 tons, falling back slightly for 1912.

These rapidly rising figures of production in a complex industry like sugar are startling evidences of the value of the methodical study that the Dutch people of Holland have thrown into their work in their island possessions, as well as in their own homes in the lands they have rescued from the sea. Even the English colony of British Guiana, where the Demerara sugars have developed a demand for their notable crystals, was started in its sugar production by the Dutch, who at one time controlled English Guiana and still control the adjacent colony of Surinam.

The report above refers to the Java sugar industry, but the committee have issued quite a large number of bulletins concerning various phases of Dutch industrial life, more particularly in the Far East. In 1912 there were 184 factories working in Java with 347,000 acres of cane under cultivation, producing 1,384,000 long tons of sugar. The area occupied in the cultivation of cane in general is much greater than the proportions of the figures here given, for the cane requires twelve months for its growth and planting goes on simultaneously with the harvest season. In fact, it is estimated that a million of the 1,200,000 acres of the lands were in control of the sugar industry in 1912 to cover the 347,000 acres that were being cultivated for present delivery. Various other crops are planted in Java, the cane crop being planted every year, or at least but one crop is gathered and then the land is put in some other crop and cane may be put in again in the second or third year.

The Dutch government began the industry more than eighty years ago by compulsory order, protecting the natives in all their rights and giving them the alternate use of the lands, but requiring them to be planted in sugar cane in regular rotation and the natives to be compensated for their labor. As the island has quite a large population the whole plan

seems to have worked out extremely well, as indicated by the rapidly increasing figures that we have already given. The actual compulsory system did not last very long, but sufficiently long to start the industry along the lines of success that we have indicated.

The sugar industry in Java is almost exclusively carried on in irrigated fields, the irrigation works being the same as those in use for the cultivation of rice, while the right of employing these works is included in the rent of the land. A cane crop takes about 15 to 17 months in time during which the European manufacturer may occupy a field, but cannot exceed the above period, the native farmer using the land before and after that time. More than a century ago large tracts of land were sold here and there in Java and such owners are now quite free to plant and irrigate as they may choose.

In regard to the matter of labor, the cultivation in Java is carried on most intensively during the greater part of the year and demands an important labor force. The sugar estates being as a rule in densely populated districts in the low land, it is generally not difficult to get the necessary laborers, but in newly cultivated districts, or on perpetual lease holdings in thinly populated districts, it is almost impossible at times to get an adequate labor supply. During the rice harvest and at other times when public works are being constructed, there is considerable difficulty, but on the whole Java, as contrasted with other cane growing countries, occupies a favored position.

Heavy work is done exclusively by men. The lighter work such as cutting tops, planting, watering, weeding and supplying, by women, while children are only used for destroying insects and similar light work. The seed of the crop consists of the tops of the sugar cane, which measure a few joints and as a rule carry three buds or eyes. They are cut from the ripe cane at the time of its being crushed and also from cane intentionally planted for this purpose and which is still in an unripe state.

The seedlings used for planting are cut in pieces having three eyes. The trash is stripped off, those infected with insects or fungi or those which are shriveled and sickly, are collected and condemned, while the sound

ones are disinfected by means of a Bordeaux mixture with 96 per cent. water, which kills any adhering traces of parasitic fungi. The cuttings are laid down in rows lengthwise and horizontally, one after the other and with their eyes on the sides and then covered with earth, after which they are irrigated, which is repeated every three to five days. Afterwards the intervals are longer and this continues until the cane has grown up well. As the stalks of the cane develop they are banked up. The secondary stalks sprout, the formation of roots is hastened and the plants now stand firmly in the ground.

With the second and third banking or working, the fields are manured, on which process a great deal of money is spent in Java. A few years ago the manures were exclusively nitrogenous material, while potash and phosphoric acid were considered of no use. Now it has been found on closer inspection that many fields are poor in phosphoric acid and this kind of manure is beneficial to such fields. Potash is said to be present in the Java soil in a sufficient quantity. As soon as the leaves shade the ground the weeds die out. The fields of cane grow to about 13 feet in height.

Under the compulsory system, between 1830 and 1879, Java sugar was shipped exclusively to Holland. Afterwards a large quantity of sugar was exported to England, where a dry, gray sugar 15 to 20 Dutch Standard, was desired. Of the lower grades some went to England, but they found their way chiefly to China and other eastern markets. After 1890 the American market displayed an increasing interest in Java sugars and from 1896 to 1900, especially during the Spanish war, America bought the greater part of the Java crop. For many years a small quantity of white sugar has been made in Java for home consumption, but the manufacture of this article for exportation dates from the year 1903, when a shipment of a thousand tons was forwarded to Karachee. This was a success, and ever since the sugar factories in Java have been manufacturing white sugar for the British India market. After a short time they succeeded in supplying a faultless white article without greater factory loss than was suffered in the manufacture of Muscovado. In 1911, owing to the drought in Germany, white sugar was also shipped to England.

LIKIN ON THE TIENTSIN-PUKOW RAILWAY

"K.D.S." writing in the *British Chamber of Commerce Journal*, says: "In September, 1913, all likin stations on the Tientsin-Pukow Railway were abolished, and the Railway Administration in order to compensate the provincial authorities agreed to hand over 6 per cent. of the goods traffic receipts. This arrangement remained in force till June 1st, 1915. On that date twenty-seven likin stations were set up once more and foreign goods traffic in the "up" direction has practically ceased. It could not stand the burden of likin.

"As a result the Tsingtau-Tsinanfu Railway, on which no likin is charged, has secured the greater part of the cargo sent from Shanghai to Tsinanfu; it has been found most difficult indeed to cope with the demand for freight on this line. This now forms the cheapest route for piece-goods from Shanghai, the rate of freight from Shanghai to Tsinanfu being about \$10 per ton.

"The Tsingtau-Tsinanfu Railway is deliberately competing against the Tientsin-Pukow

Railway. This may be seen from the fact that, while freight for intermediate stations remains the same (Tsingtau to Chowtsun for instance being 70 Mexican cents per 100 kilos), the freight from Tsingtau to Tsinanfu has been reduced to about half the old rate and is only 40 cents per 100 kilos. It is in fact cheaper for goods consigned to Chowtsun to travel first to Tsinanfu by rail, and then back to Chowtsun by bullock cart....

"The freight on the Shanghai-Nanking and Tientsin-Pukow Railways is about \$9.00 a ton. It will thus be seen that the freight by this route is about \$1.00 a ton cheaper than by the Shanghai-Tsingtau-Tsinanfu route, even at a moment when freight on the Tsingtau-Tsinanfu section has been reduced to a minimum.

"The freight on the Shanghai-Nanking Railway and Tientsin-Pukow Railway route could easily be reduced still further for a regular business, especially in such items as coolie and boat hire at Nanking. It is doubtful if the Tsingtau-Tsinanfu freight would stand much further reduction.

"We now come to the real difficulty in the situation. The likin on the Shanghai-Nanking-Tsinanfu line amounts to about

\$20.00 a ton, or say twice as much as the entire transport charges. In consequence no piece-goods business goes by this route to Tsinanfu, and the Chinese officials have killed the goose that lays the golden eggs.

"A point for the Chinese Government to note is that before the war the headquarters of the piece-goods firms were in Tsingtau. They have now been transferred to Tsinanfu. If the Chinese Government wish the firms to remain in purely Chinese territory at Tsinanfu, and not to be re-transferred to Tsingtau, they must give the firms an alternative route for the transport of their goods. If they persist in the present policy of extortionate likin charges, the firms will inevitably go back to Tsingtau immediately the political horizon becomes more settled.

"From the difference in favour of the Shanghai-Nanking Railway and Tientsin-Pukow Railway route, as compared with the Tsingtau route, it is evident that the Chinese Government could still receive a reasonable sum in taxation by charging an equitable percentage on freight on the lines of the policy in force between September, 1913, and June, 1914. At present they receive practically nothing."



PANORAMA OF CHOSŌN EXPOSITION HELD IN GROUNDS OF THE OLD PALACE AT SEOUL.

EXPOSITION SHOWS KOREA'S PROGRESS

The progress of Korea during the ten years since the Russo-Japanese war was remarkably set forth in the recent exhibition held in Seoul, presenting in concrete form many subjects outlined in reports of the Governor General of Chosen which have been abstracted and published from time to time in the "Far Eastern Review."

The exhibition was to celebrate the completion of one thousand miles of railway in Chosen. It really represents much more than a thousand miles since a great part of the present mileage has been laid twice, owing to improvements in the line which was roughly constructed in the first place for the transfer of troops in the Russo-Japanese war while the line as now operated compares favorably with the older and more carefully planned lines of Japan. Report of the Railways for 1913-1914 of Chosen will be found in this issue.

The exposition was a constant surprise and revelation to the many foreigners who visited it as a side trip from Japan. As its setting was the ancient city of Seoul in which the Japanese have made many lasting improvements in the construction of roads, widening of streets, erection of monuments, to say nothing of the general beautification of the former parks and the creation of several new ones, while leaving certain quarters of the city probably as they were before Japanese

occupation, visitors were given a superb opportunity for comparing the new and the old in Korea, the "morning calm" of which has been succeeded by the modern bustle of commercial activity.



NIGHT SCENE SHOWING ENTRANCE—RAILWAY BUILDING ABOVE

Visitors to the exposition, many of whom made it a side trip from the Coronation ceremony in Japan, were entertained at the new Chosen Hotel. This hotel is the latest refinement of Japanese experience in hotel building and being operated under the management of the Chosen Railways, leaves little to be desired in the matter of beauty or utility and comfort of guests. The hotel occupies a

commanding site in the city of Seoul and is located in what was formerly a part of the precincts of the Temple of Heaven, in the heart of the old Korean capital. Most of its rooms are equipped with private baths and the reception halls, lobby, reading rooms, billiard room and bar are furnished in magnificent yet tasteful style. The hotel is only a short distance from the principal consulates and faces the post office and principal banking establishments. The effort of the Chosen Railway Administration to provide proper quarters for the ever increasing number of foreigners who are being attracted to Seoul, has been carried out most successfully and the verdict of visitors to the exposition was that the new hotel is equal to any in the Far East and provides all the comforts that the tourist has come to expect in traveling not only in the Occident but in the Orient as well.

The exposition was held in the old South Gate Palace, one of the most interesting sights of Seoul, and was itself housed in many new buildings in exposition style, some of which are to be permanent. As agriculture is the chief industry of the Koreans, visitors entering the grounds soon located the grand pavilion devoted to all kinds of grain and products of the field. Rice of every kind and variety, as grown in every province, on all sorts of soils, is shown and duly labelled, to



ONE OF THE AGRICULTURAL EXHIBITS



POLICE AND PRISONS EXHIBIT



IRRIGATION AND RICE CULTURE EXHIBIT



EXPOSITION GROUNDS SHOWING THE CIRCULAR RAILWAY BUILDING AND THE OLD PALACE GATE

prove which is best for certain conditions. Beans and their many products occupy much space. The exposition of cotton showing the replacement of the old Korean cotton that was almost an economic loss, so small was the yield, was made even more remarkable when contrast between 1906 and 1914 was observed. In 1906, Korea produced scarcely 25,000 kin (kin equals 1-1/3 pounds) while in 1913 more than 130,000 kin was produced. Tobacco, also of an improved variety from America, has been brought up from its position among the minor crops to an output that now practically supplies the Korean demand.

The silk worm, its breeding, culture and products together with the mechanical operations of spinning and weaving, were illustrated in the remarkable series of exhibits which showed the value of science as applied to the economics of silk production, since no haphazard methods of breeding are permitted, but every moth is examined under the microscope before being mated, although these same moths are the highest types of a carefully selected series.

The Ginseng monopoly which yields more than a million yen of revenue to the government was well set forth in exhibits of a practical nature intended to train the farmer in the proper culture of this important medicinal plant. In the horticultural division were shown not only the native fruits, but apples, peaches, pears, plums, grapes, and berries of various kinds, originally brought from the United States, were shown to be thriving in

their adopted soil. In connection with this, exhibit methods of using the fruit, such as packing and canning, were set forth while attached to each exhibit was an expert who could be consulted by growers as to the best methods for increasing their yields or conserving their trees. Models of the reforestation operations in which tens of millions of trees are being planted annually were shown and modern forest tree nursery methods illustrated in detail.

The great importance of this reforestation will be seen when it is known that the total area of mountain and forest lands in Chosen is sixteen million cho, of which eleven million is practically treeless, two million of this latter area being absolutely barren. Despite this, there are still some forests in Korea and the showing of fine timber in the exposition seemed rather to contradict the necessity for reforestation.

In marine products, an excellent display was made, especially by the Fisheries Guild that is the largest factor in this industry. Despite that more than twenty-six thousand persons are enrolled in this organization which owns six thousand six hundred fishing boats, the catch of fish is far short of the demand and the importation of fish into Chosen is upwards of half a million yen annually, so that the authorities are doing everything they can to extend this industry.

Korea as a mining country is very favorably known to a great many stock-holders in the United States, England and France, whose

money has enabled several foreign companies to develop the gold and copper mines of Chosen and visitors to the mining exhibit were shown a fine array of geological specimens. Economic minerals were shown in a mountain of gold bearing quartz with great blocks of copper and silver ore, graphite, iron, emery, and every kind of coal from peat to anthracite. In connection with this exhibit of products was one of methods, in which were gathered together models of smelting furnaces, refining plants, large scale models of mining operations, as well as geological models of the country including one showing the longest tunnel in the country.

An interesting feature of the electrical exhibit was a real water-fall which drove a turbine coupled to a generator set, the power being distributed to various classes of machines, from sewing machines to flour mills, thus illustrating to the Korean what can be done with the many rapid rivers whose power now is practically entirely neglected.

The Railway Pavilion was a structure of circular ground plan with a central tower that made it one of the dominating features of the exposition. In it were many beautiful landscapes showing the special points of interest along the routes, while large-scale maps and models of bridges served to show the working of the railway proper. A huge relief map showing Northern Asia and part of Europe, enabled visitors to see the importance of Korean Railways as regards both Japan, Siberia and China. Considerable attention was



MANUFACTURES AND LIBERAL ARTS BUILDING



BUILDING FOR EDUCATIONAL EXHIBITS

given to the electrical side of the exhibition and the scene in the grounds at night when the buildings were illuminated, was quite brilliant. Aside from the large number of foreign visitors the exposition attracted to Korea, it was an economic success whose value cannot be measured for years to come since it gave the Koreans an opportunity of viewing their

country as a whole, of studying various activities undertaken by the Japanese Government in their behalf and furnished them with a living contrast of modern as against the old methods before their "morning calm" was ruffled by the energetic Japanese coming in from the East. The exposition marked a progress in education and material benefits that

was most surprising to those who had not followed the work of Japan in Chosen during the decade since the war with Russia, and served as a monument to the endeavors of the Japanese in the reformation of this "backward nation" which is now to all intents and purposes, as well as politically, a part of the Japanese empire.

CHOSEN RAILWAYS REPORT FOR YEAR ENDING MARCH 1914

[PRESENTED TO THE GOVERNOR-GENERAL OF CHOSEN BY THE DIRECTOR OF THE RAILWAY BUREAU]

The average working mileage of the Chosen Railways for the year in passenger traffic was 910 miles and that in goods traffic 911.1 miles, showing increase of 107.1 miles in the former and 113.8 miles in the latter over the preceding year. The train mileage totalled 3,570,366 miles, the number of passengers carried, 4,005,441 and tonnage of freight hauled, 1,388,015 tons, showing increases of 554,379 miles in train mileage, 506,419 in passengers, and 283,553 tons, in freight, compared with the figures for the preceding year. The aggregate passenger and freight mileages were 173,743,488 and 123,127,673 respectively, being an increase of 8,708,937 in the former and of 23,145,173 in the latter over the preceding year. The receipts for the year were Yen 3,815,806 from passengers and Yen 2,534,042 from freight, making a total of Yen 6,349,848 and showing an increase of Yen 522,880 over the preceding year.

The fine results attained were due to the increase in traffic mileage which naturally caused economical development in the peninsula and absorbed new traffic; also the different arrangements made to induce passengers and goods traffic apparently had much to do with securing such results. The bright condition in passenger traffic prevailing since the end of the preceding year continued, and the standard of living in general gradually rose, resulting in the success enjoyed in running excursion trains to Sodo and Kaijyo. Though traffic was rather low during the summer, in autumn it increased owing to the transportation of soldiers stationed in Chosen for their manoeuvres, parties of school boys to see them, and visitors to exhibitions at Taikyu, Heijyo, and Chinnampo; besides, the opening of the Japan-Manchuria through passenger traffic in May and the Japan-China through passenger traffic in October brought us a new field of work and our prospects in this line of transportation are very hopeful. In goods traffic, a one-third reduction in customs duty which had been under consideration for years was put into force, and the reduction in freight rates for goods to Manchuria was put into force at the same time. Consequently the volume of such goods as cotton cloth, cotton yarn, flour, sugar, etc., transported over our line was much increased, though these goods were mostly sent by sea heretofore; exportation of Manchuria beans and grains to Japan was also partly carried on over our line. Transportation became still brighter by the abolition in July of the tax levied upon rice exported from Chosen to Japan. In January, 1914, the Japan-Manchuria through goods traffic was opened, thus laying hands upon the international through goods traffic. All these became factors in the development of the goods traffic, directly or indirectly.

The principal traffic arrangements made during the year were as follows: consequent upon the completion of the new pier at Fusan, the Fusan-Antung express was made to arrive at and depart from the pier since April to facilitate train connection with the channel steamers. In May the time-schedule for all lines was revised, extending the Fusan-Keijyo express to Antung and increasing the number of local trains on the Keijyo-Shingishu line at

the same time. In September the Information Office of our Traffic Department was opened at Tokyo for the sale of tickets, registration of baggage and parcels, and giving information to tourists, all aimed at helping travellers for Chosen and Manchuria. As regards the joint traffic, in May the Japan-Manchuria through passenger traffic, as well as that between the Chinese Eastern and Usuri Railways and our lines, was opened, and in October the through passenger traffic between the Imperial Government Railways of Japan and our line and the Peking-Mukden line of the Chinese Government Railways was opened. Second class service on the Chosen-Manchuria express and the sale of express train berth tickets were started in November. In January, 1914, the Japan-Manchuria through goods traffic was opened. Besides, not a few extensions and improvements were made in the joint traffic between the Imperial Government Railways of Japan, South Manchuria Railway, and our line.

We attained a reasonable result from our station hotel business in consequence of improvements made in hotel equipments and the increase in passengers from the West to the East. We may also say that the increase in guests stopping at our station hotels lately is due to the comfort afforded them. The results were 1,134 guests stopped at the hotels, making 2,003 in the aggregate, 7,695 guests for meals, 511 guests for banquets, and Yen 18,721 in hotel receipts.

The dining car service on express trains and the refreshment-room service came under our direct management in April, 1913. Various improvements were made in the service and equipment which made them popular among Japanese and foreign passengers. Their results for the year were 33,254 guests and Yen 31,594 for the dining cars, and 10,025 guests and Yen 9,709 for the refreshment-room.

The store-house business was commenced this year; store-houses at Keizan and ten other stations were opened in July, and at Rensen and one other station in October. This business in Chosen is as yet in an undeveloped condition, and in only a few places are perfect store-houses established; consequently development has been very slow. But, by the opening of store-houses under our own management, consigners as well as the merchants in general have been much assisted and given great convenience in their business transactions. Though we could not expect to obtain conspicuous results in this direction at the beginning, we are sure of their efficiency and development in the future.

The locomotive mileage during the year totalled 4,160,119 miles and the converted carriage and wagon mileages 28,064,309 miles; coal consumed amounted to 185,761,845 kin for running and 18,002,870 kin for lighting, etc., being 203,764,715 kin in the total; oil consumed reached 90,289 sho for locomotives and 84,146 sho for carriages, wagons, etc., being 174,435 sho in the total. Compared with the figures for the preceding year, these show increase of 673,061 in locomotive mileage, 4,937,905 in carriage and wagon mileage, 6,581,898 kin in coal consumed for running,

and 2,558,589 kin in that for lighting, etc., 13,165 sho in oil for locomotives, and 14,679 sho in that for carriages, wagons, etc.

Rolling stock returns show 154 locomotives, 268 carriages, and 1,538 wagons, being increases of 16 locomotives, 59 carriages, and 93 wagons.

The principal items of equipment and improvement made to rolling stock, etc. were the addition of 16 locomotives, 57 carriages, and 93 wagons, and the erection of 33 spans of girders, besides the equipping of two locomotives with steam brakes, three carriages with electric lights and fans, 114 wagons with air train pipes, and 15 with steam train pipes.

The aggregate length of electrical communication lines at the end of the year was 2,453 ri; telegraphic apparatus installed numbered 137, telephonic 934, and blocks 267. Railway telegraphic stations numbered 144; railway messages dealt with were 3,702,410, and public messages 247,777, being a total of 3,950,187. The revenue from public messages was Yen 8,250. Generating stations numbered 2, with engines of 830 h.p. in total capacity, and 466 k.w. in that of generators. Electric lamps numbered 34 arc and 6,297 incandescent, 7 of the former and 2,030 of the latter being supplied under contract. Besides, those installed in carriages numbered 1,975 in all.

Traffic mileage at the end of the year totalled 970.2 miles and the aggregate length of tracks, 1,192 m. 13 ch., being increases of 133.2 miles in the former and 158 m. 66 ch. in the latter over the preceding year. The number of stations was 154, being greater by 23 than in the preceding year.

As regards the progress of construction works the following may be mentioned: on the Kei-Fu line the construction work of new shunting at Nandaimon Station was completed; on the Kei-Gi line alteration to Hakuba Station, new building of a compressed air station at Ryuzan, and transference of patients' room at the Ryuzan Railway Hospital were all completed; on the Heinan line the pier at Chinnampo was completed, and enlarging of every station is still in progress.

On the Kei-Gi line the construction work made striking progress and by the end of the year Ryuzan-Kenfutsuro (86.5 m.) and Gensan-Kozan (28.1 m.) sections were opened to traffic; in the direction of Ryuzan nearly all the work was finished, leaving only the graveling to be done, while toward Gensan most of the bridging and tunnelling was completed, and erection of bridge girders and laying of rails are in progress. We are expecting the line will be open to traffic by August, 1914.

On the Konan line, Taiden-Seiyu and Riri-Kunsan sections (96.7 m.) were opened the previous year, and in January, 1914, the remaining portion was completed and the whole line opened to traffic. But as this line was constructed rather hurriedly, reconstruction is now in progress.

The Chosen Hotel is now in the course of erection in Hasegawacho, Keijyo, the foundations of it were laid during the previous year, and the laying of mains for water and sewage, and the skeleton of the main building were finished during the year now reviewed; the



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THRONG OF KOREANS AWAITING OPENING OF THE GATES

furnishing, electric installation, plumbing, and other equipments are now in progress.

Receipts relating to traffic during the year amounted to Yen 7,852,185 and expenditure to Yen 6,283,958, leaving a balance of Yen 1,568,227 as profit. Compared with the figures for the preceding year, the increase in receipts was Yen 1,034,922, that in expenditure Yen 319,563, and that in profit Yen 715,359.

In the railway store account, the earnings amounted to Yen 5,494,118 and the disbursements to Yen 5,493,559, leaving a balance of Yen 559.

The value of contracts in the purchase of railway stores amounted to Yen 4,626,714, being an increase of Yen 163,983.

The capital invested in the railways since the commencement of their construction up to the end of the previous year totalled Yen 114,720,386. Adding to this the sum of Yen 8,661,648, which is the increase made during the year, the total capital invested up to the end of the year under review reaches Yen 123,382,034.

The members of the Relief Association numbered 4,712 at the end of last year; adding 1,930 newly admitted and deducting 1,075 withdrawals during the year, they numbered at the end of the year 5,267. The receipts totalled Yen 84,147; of this amount Yen 29,235 was the grant from the Government. Yen 45,950 represented subscriptions from members, Yen 8,957 interest on deposit, and

Yen 5 miscellaneous receipts. The disbursements totalled Yen 32,175; of the amount Yen 7,365 was the grant made in regard to injuries. Yen 10,961 for deaths, Yen 6,446 for medical allowance and Yen 7,403 was refunded to members resigning. A sum of Yen 185,839, made up of Yen 51,972, the balance at the end of the year, and Yen 133,867 transferred from the previous year's account, was carried forward to the account for the year following.

Light railways and tramways in Chosen in operation at the end of the year were five, namely, the system operated by the Nikkan Gas Electric Co., and four others operated as private concerns. The aggregate capital of these light railways and tramways totalled Yen 10,426,600, of which amount Yen 5,748,695, was paid up, while the amount invested in them reached Yen 2,530,898. The mileage open to traffic totalled 23.7 miles, consisting of 16 miles of electric tramway in Keijyo, 5.8 miles of light railway between Fusanchin and Torai in Keishonando, 1.2 miles of manual tramway in Heijyo, and 0.7 mile of manual tramway for goods between Wakan railway station and the wharf on the Rakuto River. The mileage to be opened hereafter amounts to 181.2 miles, namely, 0.2 mile in Keijyo, 7 miles in Fusan (electric tramways), 115.2 miles between Torai and Keishu, Keishu and Taikyu, Keishu and Hoko, and Urusan and Choseiho, 13.4 miles between Shinshu and Senshin, 8.4 miles between Koshu and Shoteiri, 16 miles between Riri and Zenshu,

8.9 miles between Kanko and Seikoshin, and 12.1 miles between Seishin and Ranan (light railways).

In passenger traffic, in addition to the prosperous condition we have enjoyed since the end of the previous year, we had more people taking advantage of our excursion trains to Sodo and Kaijyo, besides a great transportation of troops, and trips by the crews belonging to the 1st Squadron. In May revision of the time-table for all lines was made, and express trains were run on to Antung and more local trains were run on the Kei-Gi line, all for the greater convenience of passengers. At the same time the Japan-Manchuria through passenger service was opened, thus laying hands on the international passenger traffic. Thus we can credit all these arrangements, besides many others, with being the cause of our traffic showing up so prosperously. Generally we have fewer passengers and diminished receipts during summer, and such was the case this year, too, though we suffered nothing from storms or rains. In autumn we transported troops for their manoeuvres and a large number of schoolboys to see them. Special trains were run or reduction in fares was made for visitors to exhibitions at Taikyu, Heijyo, and Chinnampo, for excursions to the chestnut woods at Kaijyo, and for the annual meeting at Keijyo of the various Episcopal Churches and Miroku's great festival at Ronzan. In October the Japan-China passenger through traffic was opened and our con-



RAILWAY BUILDING AND OLD PALACE GATE



BUILDING FOR FINE ARTS EXHIBIT

nection with the Peking-Mukden line was effected, bringing a greater number of passengers over our railways. In winter we had no particular business worth mentioning except the transportation of part of the troops stationed in Chosen, both relief and time-expired, though the weather was not so severe and we had the usual amount of passenger traffic. In the new year our traffic was rather low, as usual, owing to the cold weather and other causes, though the completion and opening of the Konan line added a certain degree of prosperity to the lines already opened.

Thus the results of passenger traffic during the year showed an average of 523 passengers and Yen 11.49, per day per mile being decreases of 40 in passengers and Yen 0.61 in receipts, as compared with the figures for the preceding year. These are due chiefly to the opening of new lines. The increase of 0.04 sen making 2.01 sen in receipts per passenger per mile, and decreases of 2.7 miles in average mileage per passenger and 4 sen in average receipt per passenger, making 34.8 miles in the former and 70 sen in the latter, are due to less transportation of tourist parties over long distances.

As regards the goods traffic, the quantity transported increased consequent upon the opening of new lines.

With reference to the transportation of important goods, we may say that the rice transported amounted to 161,000 tons, being more than 63,000 tons than in the previous year in consequence of the abolition of transit duty on rice for Japan, importation of foreign rice into Chosen, and exportation to Vladivostok. The principal places to which rice was destined were Keijyo (44,000 tons), Fusan (37,000 tons), Kunsan (19,000 tons), and Jinsen (14,000 tons). The rice imported into Chosen is increasing in quantity, and demand for it is extending of late to the northern part though formerly it was restricted to the southern part only. The importation of millet has also much increased lately, showing 48,000 tons in quantity transported (40 per cent. more than in the previous year), 15,000 tons of it being by direct importation. The transportation of beans reached about 9,000 tons more than in the previous year notwithstanding the smaller crop and exportation. The demand for refined salt was active, too, and about 20,000 tons of it were sent from Jinsen. The consumption of coal in Chosen has considerably increased in consequence of the development in various industries and its transportation reached 169,000 tons, 49,000 of the quantity being from Fushun (about 200 per cent more than in the preceding year). We did not see any difference in the transportation of lumber as there was a great quantity of it imported from Manchuria and sent to Beiton, though we did not handle so great a quantity from the Yalu as in other years. As regards firewood and charcoal, we transported only 3,000 tons more than during the previous year as the weather was milder than usual. The transportation of graphite from Kokan and Shinanshu greatly increased during the year and reached 9,000 tons in the total, which is almost double that of the previous year. Besides, the transportation of flour, fresh fish, vegetables, fruit, cotton fabrics, straw bags, straw ropes, straw mats, and manure each reached about 10,000 tons, showing more or less increase than in the preceding year. The transportation of salted dried fish, mintai-fish, petroleum, and tobacco was rather low.

In the condition above mentioned, the average tonnage per day per mile was 371 tons and receipts, Yen 7.62, being an increase of 26 in tonnage and a decrease of Yen 0.22 in receipts compared with the preceding year. The decrease in receipts, notwithstanding the increase in tonnage, is the result of reducing the mileage rate in proportion to increase in distance. The decrease of 0.17 sen in average receipt per ton per mile, showing 1.91 sen, and the decrease of 1.8 miles in average mileage transported per ton and 18 sen in receipts per ton, showing 88.9 miles in the former and Yen 1.70 in the latter, were due to reduced

transportation of railway supplies over short distances.

The results of passenger and goods traffic according to the different lines (details of which are given in tables annexed) are as follows:

Line	Av. Traf. Mileage	Passenger		Av. Receipts per Day per Mile
		No. of Passengers	Coaching Receipts	
Kei-Fu	318.1	2,913,789	2,138,584	18.42
Kei-Gi	360.8	1,535,876	1,204,060	9.14
Kei-Gen	93.5	354,760	185,772	5.44
Konan	137.6	572,811	287,390	5.72
Total	910.0	4,995,441	3,815,806	11.49

Line	Av. Traf. Mileage	Goods		Av. Receipts per Day per Mile
		Tonnage of Goods	Receipts	
Kei-Fu	318.1	810,015	1,345,131	11.59
Kei-Gi	361.9	465,886	960,375	7.27
Kei-Gen	93.5	189,404	101,101	2.06
Konan	137.6	158,191	127,425	2.54
Total	911.1	1,388,915	2,534,042	7.62

Line	Locomotive Mileage
Kei-Fu	1,979,259.8
Kei-Gi	1,703,742.4
Kei-Gen	149,631.1
Konan	327,485.2
Total	4,160,118.5

Results of Station Hotel Business

The guests at the Station Hotel at Fusan and Shingishu during the year numbered 1,134, making when reckoned by length of stay 2,003. Meals served reached 7,695; and dinners 21, the guests at these numbering 511. The receipts at the two station hotels amounted to Yen 3,520 from rooms, Yen 11,485 from meals, Yen 2,778 from beverages, Yen 229 from tobacco, and Yen 709 from miscellaneous sources, making Yen 18,721 in the total. These show increases of 59 per cent. in guests, 12.8 per cent. when reckoned by length of stay, and 34.5 per cent. in meals, compared with the figures for the preceding year. Though we had an increase of 62 per cent. in the number of dinners served, there was a decrease of 31 per cent. in the number of guests, offset by an increase of 21 per cent. in receipts from the dinners.

We have made various improvements in accommodation during the year and put our hotel coupons on sale at Messrs. Thomas Cook & Son and the International Sleeping Car Co. for the convenience of passengers. These helped much in inducing guests to visit the hotels; the brighter condition of the traffic between Europe and Asia, too, naturally increased the number of guests at the hotels.

The dining-cars and the refreshment-room at Nandaimon Station were at one time managed under contract; but since April, 1913, we have taken them under our own managements in various points for the convenience of passengers. The guests we had in dining-cars during the year were 33,254, and the receipts, Yen 31,594. The guests at the refreshment-room numbered 10,025, and the receipts amounted to Yen 9,709.

The warehouse business is a new line, and warehouses were opened at Keizan and ten other stations on July 1, and at Rensen and one other station on October 15. The warehouse business was in an infant state and greatly obstructed industrial progress. But since the opening of warehouses under our

own management, merchants in different localities are utilizing them to their fullest extent. Though we can not yet show startling results in this new line of business, we issued 807 dock warrants against 1,210 deposits of goods, about 70 per cent. of the dock warrants being issued as security to bankers, etc. The principal goods deposited in the warehouses were grain, straw ropes, straw bags, straw mats, and tobacco. The total tonnage deposited reached 9,639 tons, and the average tonnage per day was 1,617.8 tons. The storage fees amounted to Yen 4,652 and miscellaneous receipts to Yen 127, reaching the total of Yen 4,779, being Yen 0.011,5 per ton per day. Dock warrants, bills of deposit, and advices issued reached 1,306, of which 30 per cent. were issued to Koreans.

Results of Locomotive Working

The mileage of locomotives on all the lines during the year was 4,160,118.5 miles and the converted mileage of cars was 28,064,309.3 miles, while the coal consumed for running amounted to 185,761.845 kin and the oil (for cylinder, machine and air pump) to 90,289.47 sho. These show increases of 19.3 per cent. in locomotive mileage, 21.4 per cent. in car mileage, 3.7 per cent. in coal, and 17.1 per cent. in oil, when compared with the preceding year.

The following are the results of locomotive working on the different lines:

Line	Converted Car Mileage	Coal Consumed for Running kin	Oil Consumed for Running sho
Kei-Fu	12,968,043.9	93,821,825	44,493.42
Kei-Gi	12,783,155.5	73,047,770	36,833.80
Kei-Gen	830,497.6	7,024,150	3,015.50
Konan	1,482,612.3	11,868,100	5,941.75
Total	28,064,309.2	185,761.845	90,289.47

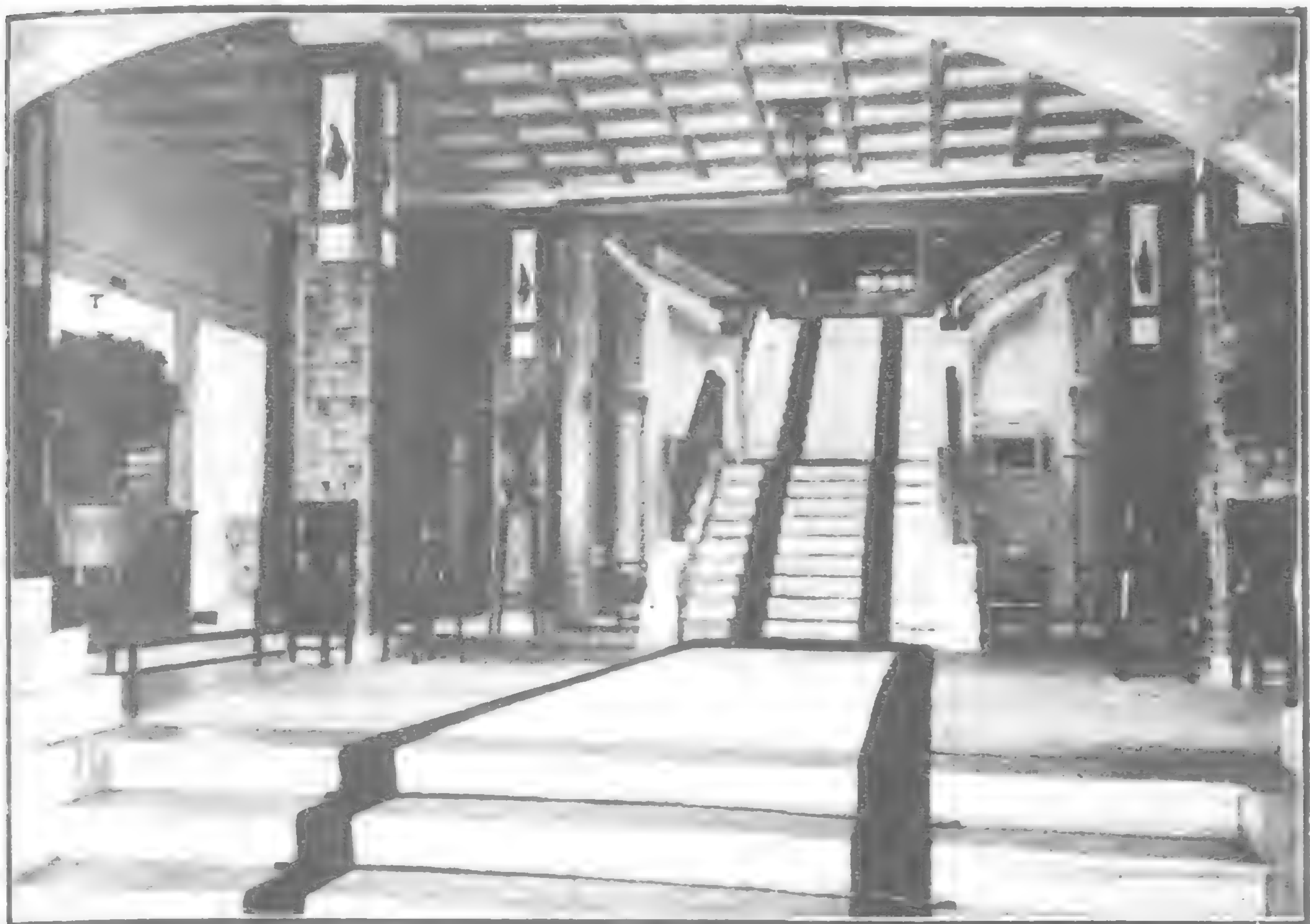
Rolling stock at the end of the year included 154 locomotives, 268 carriages, and 1,533 wagons, being increases of 16 locomotives, 59 carriages, and 93 wagons.

Workshops in the year numbered three, namely, Soryo and Heijyo Workshops; the number of artisans and workmen at the end of the year was 1,676; their aggregate working days in the year reached 496,120 and the total amount of wages Yen 378,021. The average number of artisans and workmen employed per day was 1,517.2, their wages amounting to Yen 1,156.03, the average wage per man per day being Yen 0.762.

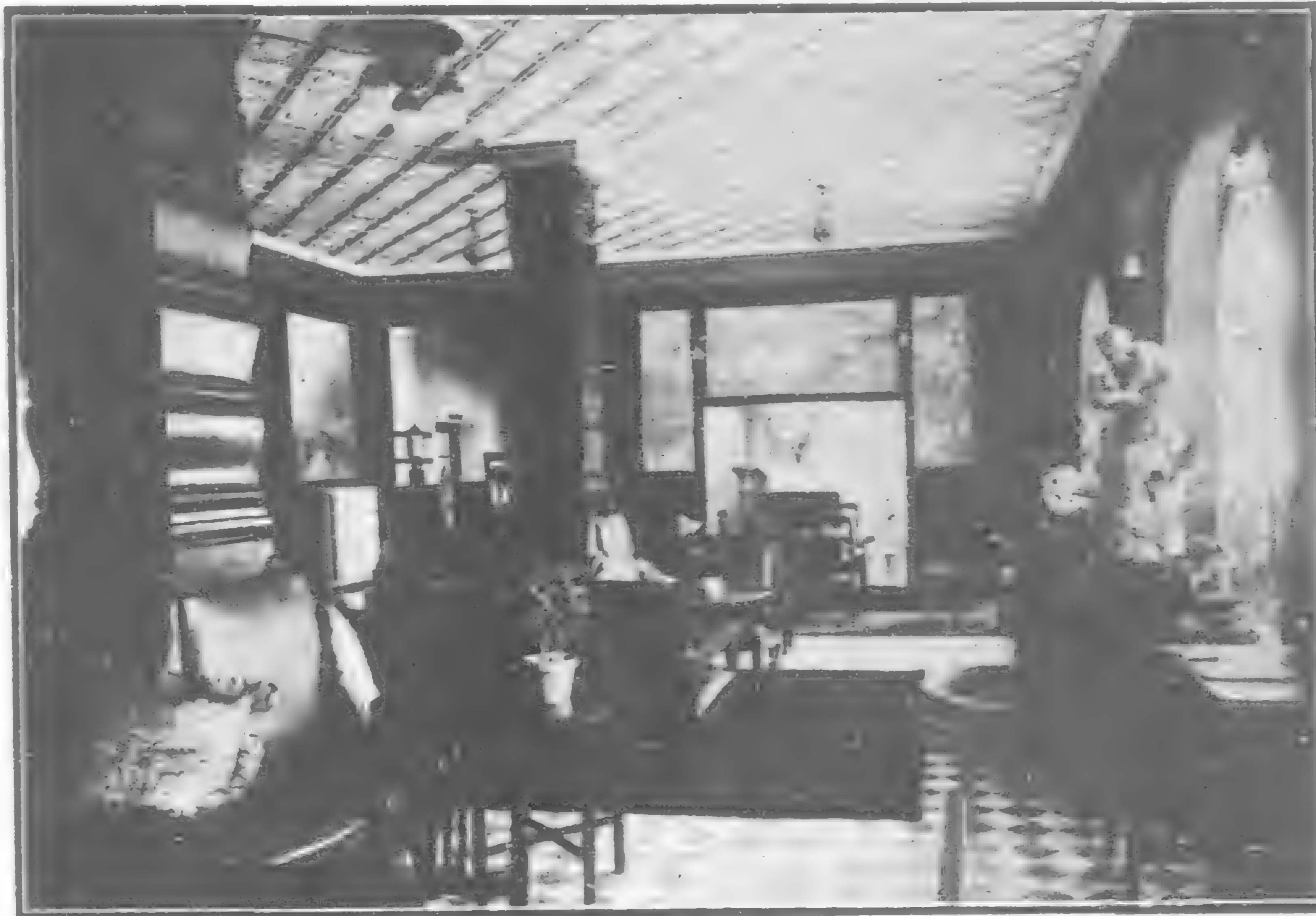
Principal items of building and repair were the building of one private car, six 1st and 2nd class composite sleeping cars, six 2nd & 3rd class composite coaches, twenty 3rd class cars, eight baggage, mail and brake-vans, sixteen baggage and brake-vans, fifty-three covered wagons, and forty open wagons, and the repairing of 165 locomotives (22 being trailing repairs), 489 carriages, and 1,147 wagons. In erection work, sixteen locomotives newly bought, two private cars, and thirty-three spans of girders may be mentioned. Conversions made were 10 covered wagons into goods and brake-vans, while new equipments made were steam-brakes to 2 locomotives, electric lights to 3 carriages, w. c. and vestibules to 4 carriages, air train pipes to 81 coal cars, 33 open wagons, and steam train pipes to 15 covered wagons, besides changing the couplers of 9 wagons, and the windows and other arrangements fitted to 12 covered wagons for military use. Three locomotives, five carriages, and 26 wagons were taken to pieces and packed for conveyance to Mokuho and Gensan, and again set up at these places.

New arrangements at Soryo Workshops were the equipment of a core oven of large type in place of a temporary one, and the improving of a tyre-filling apparatus; the generating and accumulating apparatus for batteries in carriages was completed during the year. The motive power in use at the end of the year was supplied by four sets of steam engines (170 h.p.).

Interior Views of the New Chosen Hotel in Seoul



LOBBY AND MAIN STAIRWAY



LOUNGE AND RECEPTION ROOM



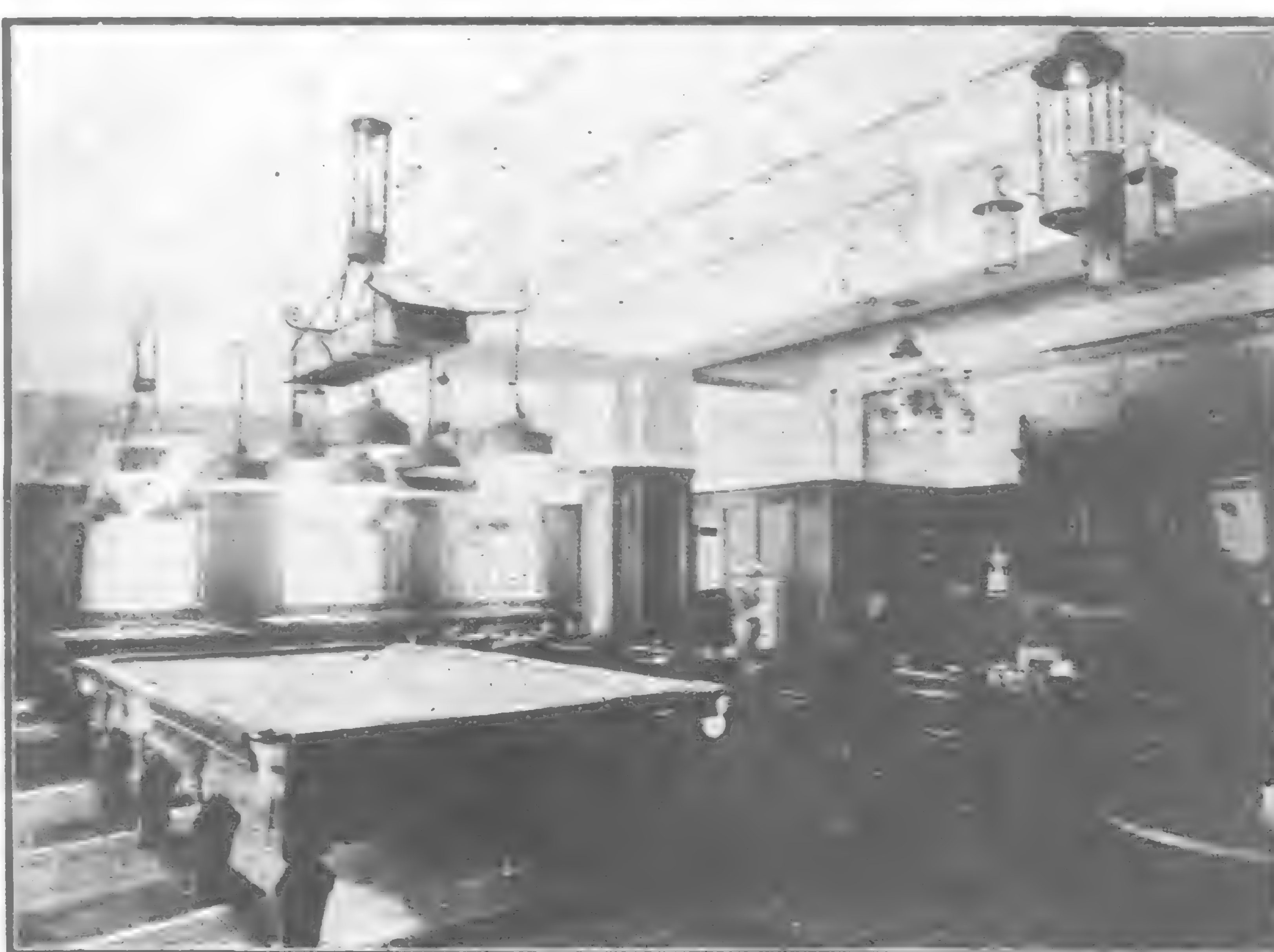
STATE BEDROOM WITH TAPESTRY HANGINGS



ONE OF THE 88 BEDROOMS WITH ATTACHED BATHS



DINING ROOM AT NIGHT—TABLES SET FOR BANQUET



CORNER OF BILLIARD ROOM AND BAR

At Ryuzan Workshops, on completion of air compressor station newly built, 3 sets of boilers and 2 sets of compressors were erected and set to work; in the erecting shop, a set of goliath cranes was fixed up. The motive power at the end of the year was supplied by 2 sets of dynamos of 224 k.w. (one kept for emergency), 15 sets of motors (649 h.p. in all), and 2 sets of air compressors of 106 h.p. (one kept for emergency).

The motive power at Hsijyo Workshops at the end of the year was supplied by a set of steam engines of 150 h.p.

Electrical Communication

Telegraph stations at end of the year numbered 144; of the number 83 are public telegraph stations, being increases of 15 in the former and 9 in the latter over the preceding year in consequence of the opening of new lines. Eighty-two of the number are installed with both telegraph and telephone apparatus, and 62 with telephone apparatus only.

Telegraphic messages handled numbered 3,950,187 during the year, showing an increase of 4,421. Those dealt with per station per day were 70 railway telegrams and 9 public ones, showing decreases of 6 in the former and 4 in the latter compared with the preceding year.

The percentage of different messages was 28.3 per cent. despatched, 37.6 per cent. received, and 34.1 per cent. transmitted, showing an increase of 0.8 per cent. in those received and decreases of 0.1 per cent. in those despatched and 0.7 per cent. in those transmitted.

Circuits at the end of the year numbered 676, showing an increase of 64 over the preceding year. Circuits may be classified into 28 telegraphic circuits, 482 telephone circuits, and 166 signal circuits, being increases of 2 telegraphic, 39 telephone, and 23 signal circuits. The circuits for both telegraph and telephone adopting simultaneous telegraphy and telephony numbered 21, being 6 telegraph, 12 telephone and 3 signal circuits, being an increase of four over the preceding year in consequence of new lines being opened to traffic.

Machines at the end of the year comprised 137 telegraphic apparatus, 134 telephone apparatus, 267 block apparatus, 9 telephone switch boards, 53 electric bells, 16 repeaters, and 2 each of automatic indicators and release locks, showing increases of 15 in telegraphic apparatus, 57 in telephone apparatus, 32 in block apparatus, 8 in electric bells, 2 in repeaters, and 2 in release locks over the preceding year.

New offices for public telegrams opened during the year are Mokpo and 8 other stations. The delivery of messages arriving at Shoteiri and 4 other places was discontinued in consequence of an increase in telegraphic arrangements by the Communications Bureau along the railway line. For through communication between Mokpo Post Office and Mokpo Railway Station, and Kunsan Post Office and Kunsan Railway Station, one telegraphic apparatus belonging to the Communications Bureau was installed at these railway stations.

The revenue from public telegrams during the year amounted to Yen 8,249.61 and the average revenue per station, Yen 99.393, being increases of Yen 3,009.26 in the former and Yen 52,754 in the latter over the preceding year.

The following are the principal items to be mentioned concerning the electrical arrangements and their results during the year.

Power stations at the end of the year numbered 2, steam engines 3 (830 in total h.p.), and generators 3 (466 k. w. in capacity); one steam engine and one generator are kept in reserve.

Motors at the Ryuzan Workshops numbered 15 and their total h. p. amounts to 649.

The electric lights supplied by the Railway Bureau's own power station numbered 4,294, representing 3,666 when converted to 16 candle

power, and those under contract 2,037, representing 2,394 when converted to 16 c. p. These show increases of 13.5 per cent. in the former and 16.4 per cent. in the latter compared with the preceding year.

130 carriages were equipped with 1,975 electric lights, and 130 with motor fans, their motors being 59 and batteries 1,416 in number respectively. These when compared with the preceding year show increases of 40 in the number of carriages, 710 in lights, 69 in motor fans, 18 in generators, and 432 in batteries.

The total amount of current generated during the year reached 1,184,068 k.w.h. (3,244 k. w. h. average per day), while the total expenditure was Yen 29,317.85 and the coal consumed 5,214,563 *kin*, corresponding to Yen 0.025 in expenditure and 4.4 *kin* of coal consumed k. w. h. The expenditure consisted of 59.2 per cent. for fuel, 4.6 per cent. for oil and grease, 12.2 per cent. for repairs made, and 24 per cent. for miscellaneous purposes. The average cost of coal per 10,000 *kin* was Yen 33.31. These figures represent increases of 0.1 per cent. in current generated, 16.1 per cent. in expenditure, 23 per cent. in coal consumed, 19 per cent. in expenditure per k. w. h., 22.3 per cent. in coal consumed per k. w. h., and a decrease of Yen 3.366 in average cost of coal per 10,000 *kin*.

Kei-Fu Line Construction and Improvements

The construction of a new shunting line at Nandaimon Station which had been begun the previous year was finished. The double track between Ryuzan and Roryorshin was also finished during the year.

In improvement work, the body, embankment, pier (Nos. 4, 5, 9) and girder works of bridge No. 2 over the Kan, as well as rebuilding bridge No. 2 on line No. 1 over the same river, which had been in the course of construction since the previous year, were completed: on the Masan branch, the filling work of the road-bed of Shinei-Rakutoko section (16 m. 50 ch. 17 m. 33 ch. from Masan terminus) was finished during the year.

2. Kei-Gi Line

On this line, the building of a temporary station at Mochuri, alteration to Hakuba Station, removal of the auxiliary building of the railway school at Ryuzan, and the removal of official houses at Kosui and Seikei, which had been in progress since the previous year, were finished during the year. The rebuilding of the main building of Shin-anshu Station, the building of an official house at Koyu, dormitory at Shingishu, the compressed air station and patients' room attached to the railway hospital at Ryuzan, the branch line on the Seisenko, and branch for transporting gravel on the Hakusen were all finished during the year.

As regards the Hei-Nan branch, the landing depot at Chinnampo which had been in course of construction since the previous year was finished; the enlarging of every station is still being carried on. The alteration in grade of a part of Heijyo-Taihei section, the construction of a new flood opening No. 3 for the R. Futsu, pitch stone work on the embankment of the Heinan Road (2 m. 30 ch. from Heijyo), and sewer work at 17 different points on the same road were all finished.

3. Kei-Gen Line

This being a new line, 138.4 miles long, between Ryuzan and Gensan, the construction of it has made conspicuous progress since its commencement in October, 1910, and the Ryuzan-Kenfutsuro section (86.5 m.) and the Gensan-Kozan section (28.1 m.) are open to traffic. In the direction of Ryuzan the only remaining work is the ballasting, and in the direction of Gensan almost all the earth, bridge, and tunnel works were finished, and the erection of girders and laying of rails are now in progress. The following are general remarks on the work.

Ryuzan-Sempo section (94.1 m.): Of this section the distance between Ryuzan and Tetsugen (60.8 m.) was opened to traffic in the

previous year; 16 m. between Tetsugen and Fukkei were opened in July, 1913, and 9.7 m. between Fukkei and Kenfutsuro in September: the earth, bridge, and tunnel works, and the laying of rails for 7.6 m. from Kenfutsuro to Sempo were finished during the year and ballasting is now in progress.

The formation level of portions of the track at a distance of 1 m. and 9 m. from Ryuzan is now in hand.

Sempo-Kozan section (16.2 m.): This section runs along steep mountain sides and consequently has 14 tunnels (aggregating 11,149 ft.) and 35 bridges (aggregating 5,618 ft.), and is considered the hardest part of the work on the line. But the construction made conspicuous progress during the year, and 96 per cent. of the earth work, 88 per cent. of the bridge work, 93 per cent. of the tunnelling, and 94 per cent. of the work as a whole were finished during the year.

Kozan-Gensan section (28.1 m.): The construction of this section was begun in the fiscal year 1911, and 24.1 m. from Ryuchiin to Gensan was finished in August, 1913, and 4 m. from Ryuchiin to Kozan in October, and opened to traffic.

Accompanying the progress of the earth and other works, the rails were laid and construction trains run as far as Sempo, 94.1 m. from Ryuzan.

Building Works: The station main building and official houses at Gesseiri and Heiko, the station main building, official houses, locomotive shed, and dormitory at Fukkei, and the official houses at Taikori, the construction of which had all been started during the previous year, were finished in the year reviewed. The erection of storehouses at Rensen and Tetsugen, and the station main building and official houses at Kenfutsuro were all finished, while the temporary storehouse at Heiko was transferred to Fukkei and erected as a doctor's office. The station main building, official houses and dormitory were built at Koran; official houses at Shakuoji, and the official houses and dormitory at Ampen were finished, while the erection of the station main building and the enlarging of a dormitory at Gensan were done during the year.

Electric Line Works: The laying of the telegraph line between Giseifu and Tetsugen which was started the previous year was finished: a block line was built on the Seiryori-Giseifu section, and the temporary poles between Giseifu and Rensen were replaced by new ones, while a telegraphic line was erected along the Sempo-Kozan section and a tablet line on the Kozan-Gensan section.

4. Konan Line

This is a new line (161.3 miles) running from Taiden to Mokuho with a branch line to Kunsan of 14.8 miles. The work made great progress from its commencement in October, 1910, and the Taiden-Seiyu section (81.9 m.) and the Kunsan branch (14.8 m.) were opened to traffic during the previous year. The Mokuho-Kakkyo section (21.9 m.) was opened to traffic in May, 1913; the Kakkyo-Rashu section (13.3 m.), in September, the Rashu-Shoteiri section (8.7 m.) in October, and the remaining work was finished in January, 1914, thus opening the whole of the line to traffic.

As the construction of this line was carried on hurriedly, most of the bridges and culverts were of wood; the earth work, too, at stations was insufficient, and we had overflows at different stations in flood-time. Consequently, the line demanded reconstruction at many places, and the parts most urgently calling for it were taken in hand during the previous year. But in the year under review we took up all the reconstruction work. The following are general remarks on the work:

Kasuiin-Tokei section: The reconstruction for 2.3 miles of the approach to bridge No. 2 over the R. Kasuiin, which was begun the previous year, was completed.

The reconstruction of 8.7 miles of track (starting 0 m. 27 ch. from Taiden) was taken up in February, 1914, and 64 per cent. of the earth work and 27 per cent. of the bridge work were done during the year.

ELECTRICITY IN CHINA

[By Mr. T. H. U. ALDRIDGE IN CASSIER'S ENGINEERING MONTHLY]

The Shanghai Municipal system has been evolved to no little extent upon the lines of the Chinese Customs Service rather than on British municipal lines. The Electricity Department has for some years now outgrown the system, and is in fact, though not in name, a complete business concern supplying on an extensive scale a public commodity dreamt of when the Shanghai Municipal Administration was co-ordinated.

The Shanghai development of electricity in the form of telephones, electric trams, light, heat and power is all tending towards a higher grade and in place of a large coolie population an artisan class will spring up.

Already in Shanghai electricity is being used very extensively for driving machinery, for industrial purposes, such as cotton mills, rice mills, flour mills, printing works and many other industries too numerous to mention. From the extent to which it is now being employed in Shanghai it is reasonable to assume that it is more economical than steam or other forms of power, but beyond this there is the undoubted improvement following electrification of mills and factories, since the elimination of steam boilers reduces smoke and consequently the amount of dirt and gloom which is always associated with industrial cities. Therefore, it is a just claim to put forward that electricity contributes to no little extent towards improved conditions of public health.

Chinese Electrical Undertakings

While on the subject of urban electricity supply, it may not be out of place to offer a little advice regarding the development of this kind of work in Chinese cities. I know there are many difficulties, not only in creating schemes for lighting Chinese towns, but in obtaining the best advice relative to the schemes themselves and the technical details involved. I am afraid an enormous amount of money has already been wasted in many Chinese electrical undertakings simply because there has been no guiding hand to point out which schemes may be suitable and which may not. As things are, it is usual for those getting up or forming a scheme for electricity supply in a Chinese town to ask for tenders from various foreign manufacturing representatives.

Very often a scheme is asked for which will provide so many thousand lamps, a term in itself extremely vague. This being done, the next procedure is for the manufacturers' representative to obtain information upon which to base a complete scheme. I think I am right in saying that very often these schemes are submitted without first-hand or even reliable second-hand knowledge of the conditions obtaining; they are, furthermore, not infrequently handled by foreigners possessing no qualifications whatever for the particular class of work.

From the somewhat scanty information available the schemes are submitted to the manufacturers at home, who, in turn, work out estimates and forward tenders to China for the particular scheme in question. Most of these manufacturers are fully qualified and competent to elaborate excellent schemes, but the conditions under which they are called upon to tender make it almost impossible for the best results to be obtained.

Manufacturer Not at Fault

A particular manufacturer may have an excellent scheme to propose, but knows perfectly well that it may be far more costly initially than that of his competitors, and, although he would be able to convince those qualified to understand the soundness and advantages of his proposals, yet he has no such opportunity, because in most cases

there is no such person or body to whom the scheme can be submitted. Therefore, he puts in a tender which will give more or less satisfactory results, but probably one which he knows is not the best. This is only natural, and no one can blame the manufacturer for so doing; the fault lies with those calling for tenders, that is, those who are responsible for originating the scheme. They themselves rarely know even in a very vague way, what they want; it is only the trained engineer, conversant with the planning and laying out of electric supply undertakings, who can really draw up a comprehensive scheme.

Cases in Point

I know of some instances where lighting stations have been built in wrong parts of the town, away from water which is required for condensing purposes, and inconvenient for the easy transport of coal, where obviously wrong systems have been adopted. In one case in particular I call to mind where the power station was built a long way from the river and on a hill, the very worst place imaginable. The reason given for this was that if the station were built a long way from the river coal would have to be transported some distance and so require a large number of coolies to handle it, therefore somebody would be able to make a lot of money over the coal transportation. Owing to the station being away from the river it would be impossible to run the plant as economically as if it were built close to it, and here again the element of personal greed came in because it meant the conditions under which the plant would have to operate would be such that 25 per cent. more coal would be required than otherwise; thus, the man supplying the coal would make large profits whilst the undertaking itself would be more or less crippled from the outset.

Advice Necessary

I think what is badly needed is the employment of consulting or advisory engineers to advise the different Chinese authorities on the question of electricity supply in their cities. These engineers should have no interest in any manufacturing firms—they should be men of high integrity and men who would command implicit trust. They must not be figure heads and their advice should be followed.

If the drawing up of the schemes were placed in the hands of such engineers, not only would the Chinese stand to benefit by having suitable schemes drawn up for them, but the manufacturers would also be in a position to quote for better machinery than they do under the existing conditions, because they all would have a definite plan to tender to and know that the lowest tender would not necessarily be accepted, but the one which, all things considered, would be essentially the best and give the best results in operation.

Good Material Available

There is excellent material in China to work upon and my experience shows that under proper direction the Chinese can be trained to perform responsible work, and I believe there is a very great future industrially and in the engineering field for China; but the country must recognize that this result cannot be obtained without a long apprenticeship being served and that for a long time help must, as far as I can see, come from the foreigner who has generations of training behind him.

Other countries have also benefited from the influx of foreign blood, and I cannot but think that if China would less grudgingly open out the country and allow the foreigner to help to build up the industries and open up the mineral wealth, the great Chinese nation would forge ahead to an extent comparable with other progressive countries.

ROSPHALTIC, IRON PROTECTOR

How best to prevent the corrosion of iron or steel is a matter uppermost in the minds of all Engineers and others responsible for the erection and up keep of structures made of these metals. A material which will satisfactorily prevent rust and corrosion, which can easily be applied and which is economical in use is all that can be desired, and with the object of manufacturing such an article, Messrs. Owen Bros. of Hull, England, devoted several years to the serious study of corrosion, its cause and prevention. The result has been "Rosphaltic" the iron protector.

"Rosphaltic" is bitumen in perfect solution, a scientific advancement over mechanical mixture of bitumen and solvent. This does away with all sedimentary material in suspension, which must produce an imperfect film, and thus result eventually in corrosion; a common fault with all solutions which require stirring. The covering power of "Rosphaltic" is great: one hundredweight will cover 4,500 square feet with two coats. This averages out at three times the area covered by the best oil paints. The great economy secured by this is obvious. "Rosphaltic" is damp proof, a property not possessed by oil paint. The possession of this property together with that of expanding and contracting with the metal, renders it a most effective protector of iron and steel when these metals are exposed to the most severe climatic conditions.

United States Steel Products Co. in new Quarters.

Among the many Shanghai agencies that have been forced by the increase of their business to seek larger quarters, is the United States Steel Products Company, which has removed from 24A Kiangse Road to the New Union Buildings at the corner of Canton Road and the Bund. Here the United States Steel Products Company has secured commodious quarters, from which offices its entire China business will be handled and where its manager, Mr. J.W. Gallagher, who has returned to his desk after a severe illness, will be glad to welcome the many friends and business associates of the company. The removal took place on the 1st. of February.

LARGE ELECTRICALLY DRIVEN MINE PUMP.

The El Oro Mining & Railway Company, of El Oro, Mexico, has installed what is said to be the largest motor-driven pump equipments over built for unwatering a mine. The pump, which was built by the Goulds Manufacturing Company, Seneca Falls, N. Y., has a capacity of 500 gal. per minute. The construction is such that the pump can be readily dismantled and lowered down an ordinary mine shaft, and when assembled it requires a very little head room. The pump is installed in the bottom of the mine and works against a head of 1,300 ft. The driving motor is a 200-H.P., three-phase, 50 cycle, 440 volt, 485-R. P. M. Westinghouse machine, connected with double reduction gearing giving the crank shaft of the pump a speed of 35 R. P. M.

TRADE OF TSINAN AND TSINGTAU FOR THE YEAR 1914

[By H. B. M. CONSUL J. T. PRATT]

General remarks.—It is not possible to write a trade report for Tsinan in the usual form for 1914 as no figures of any sort are available even for the port of Tsingtau. The first half of 1914 opened auspiciously. There were good spring rains resulting in an excellent wheat crop. Exports were growing in volume and importers with local representatives pushing the sale of cigarettes, oil and soap all found that their business was rapidly expanding.

Bright prospects. Outbreak of war.—At the beginning of the year the Germans had successfully negotiated agreements for the construction of two new railways which would have greatly increased the importance of Tsinan as a centre of railway communications. They had also at length found the capital for working an iron mine—said to be very rich in ore—situated near the Tsinan-Tsingtau Railway. Everything seemed to indicate that Shantung was about to enter on an era of prosperity and rapid development, but all these hopes were destroyed by the unexpected outbreak of the European war. The railway to Tsingtau—the main artery for the trade of Shantung—immediately ceased to be available for the transport of merchandise.

Floods.—At the same time disastrous floods occurred in the east of the province, a very large portion of which area was at the same time occupied by Japanese troops who were spread over the countryside in small detachments. The net result may be summed up in a single sentence. Trade became stagnant over the whole province and in the districts east of Tsinan ceased altogether. This stagnation continued till the end of the year, after which, as conditions gradually became more settled, a slight revival took place.

Tientsin-Pukow Railway.—In the meantime, however, the Tientsin-Pukow Railway has had an excellent opportunity of becoming the main artery for the trade of the province. Reasonable facilities at Pukow and more rolling-stock are all that is required, but unfortunately the Chinese are not adepts at managing railways to the best advantage. Some attempt has, however, been made to encourage traffic by the institution of cheap through rates.

Exports.—The principal exports from the Tsinan district are cotton, groundnuts, hides, tallow and cattle. The only foreign firms with local representation interested in exports are Germans who regarded Tsinan as the hinterland of Tsingtau and therefore specially worth developing. Their business has now, however, practically entirely ceased.

German losses.—It is well known that German merchants will take great risks, but it is frequently forgotten that those risks often lead to heavy losses. That has certainly been the case in Tsinan, where the German merchants have needlessly increased the amount of their losses by foolish efforts to impress the Chinese with a sense of their grandeur. For many years the German exporter in Tsinan, occupying palatial premises, has made little or no profit for his firm, while the Britisher, living in very humble quarters, has spread over the province organisations for the distribution of certain imports from which a golden harvest has been reaped. The German exporter has for practical purposes already disappeared from Shantung. It is probable that his place will be taken to a large extent by the even more ubiquitous Japanese, but there is little prospect that any British merchant will find conditions sufficiently attractive to induce him to open a branch here.

Banking.—The only foreign bank in Tsinan is the Deutsch-Asiatische Bank, but it is said that it has never made enough profit to pay for the imposing building in which it is housed.

On the outbreak of war the manager—a Prussian Officer of the reserve—adopted a policy of "frightfulness" towards his British clients, with the result that the bank lost its business more rapidly than might otherwise have been the case. Its sole resource now is funds of the Salt Gabelle, and the branch is run at a heavy loss. Most of the foreign firms now bank with the Bank of Communications and the Bank of China—both purely Chinese institutions—which seem to answer all requirements. There is no likelihood that any British bank will find it worth while to establish a branch here.

Imports.—The principal imports into this district are cigarettes, oil, soap, sewing machines, cotton thread, dyes, piece-goods, matches and medicines. The distribution of cigarettes, oil, soap, sewing machines and medicines is in the hands of, or superintended by, foreigners, with eminently satisfactory results.

Petroleum companies agencies.—A German firm was formerly agent for the Standard Oil Company, with the result that the Asiatic Petroleum Company, with their own staff and organisation, succeeded in capturing most of the Shantung market. This agency has now been terminated and the Standard Oil Company with their own staff will compete much more keenly in future.

Sewing cotton.—Most of the cotton thread in Shantung comes from Japan, and there is no doubt that the British manufacturer would obtain far better results if he dispensed with German agents and established an organisation of his own.

Dyes.—Aniline dyes were imported from Germany but the trade has now completely stopped and there seems some likelihood of a revival of the cultivation of native indigo.

Medicines.—Medicines are imported mostly from Japan, and their flaming advertisements are to be seen everywhere. Certain British patent medicines which have their own foreign salesmen also find a ready sale among the Chinese.

Cigarettes.—The advent of the Japanese is likely to cause keen competition in the cigarette business, which, however, the British American Tobacco Company are very well equipped to meet.

Tsingtau

Mr. Vice-Consul Eckford reports as follows:—

Exports. Straw braid.—The first six months of the year were disappointing to shippers and manufacturers owing to the fashions in the home markets not favouring Chinese braids, thus causing but a comparatively small demand in this market. About midsummer, however, there were signs of a revival of the China business and a number of forward contracts were made for shipment in the early autumn. Had the war not intervened it is safe to say that the latter end of 1914 would have seen a considerable increase in shipments. As it was, the trade in straw plaits became quite demoralised and all forward contracts were cancelled.

Groundnuts.—In the first five months of this year there was the usual volume of business through this port, but exports to Europe were probably less than last year owing to a largely increased domestic demand for the south which kept prices often above European limits.

The new season's (October to May) crop is very inferior, owing principally to damage from heavy floods and partly to the nuts being left too long in the ground in the districts adjacent to the recent military operations. Both quantity and quality have suffered from these causes. The restriction of markets in Europe, the largely increased rates of freight and the inferiority of the crop have all tended

to the reduction of exports. The usual moderate demand from America, furthermore, has not been met this season as the superior quality required by that market has not been obtainable. No supplies have come to this port at all, the farmers preferring to send their productions to Shanghai and Tientsin. Also, the native buyers from the south, who usually come to Tsingtau for their supplies, are this season operating in Tsinanfu, Taitanfu and Shanghai, taking their purchases by the Tsinpu Railway to the Yangtse for shipment to Hong-Kong and Canton. Owing to the decreased demand and the increased rates of freight the farmers are able to get only very low prices for their output this season.

Cow-hides.—The latter half of the 1914 season (January to May, 1914) was not marked by any change. More hides passed through Tsingtau than in any former season. Owing to the siege there was nothing done in 1914 season hides until December, when they reached the highest price ever known in Tsingtau, going up as high as 60 taels. This was entirely owing to Japan having secured a large contract for leather for the Russians. Japanese merchants paid any price the dealer liked to ask, much speculation was done, and many small firms had to close down. Up to the end of the year the quantity of hides arriving here was of necessity small.

MINING EXPLOSIVES AND THE WAR

The embargoes which have been placed upon the exportation of explosives from the Allied Countries have greatly increased the demand on the United States from foreign countries. Since these embargoes also restrict the exportation of glycerine to the United States, there has been an abnormal increase in the cost of glycerine and the price of explosives has advanced very materially as a result. The immediate result of this state of affairs is that consumers everywhere are paying high prices for explosives. Therefore, the economic necessity of supplanting, wherever possible, explosives which contain very high percentages of nitroglycerin, such as blasting gelatin (which contains from 86% to 92% nitroglycerin), 80%, 70%, 60% and 50% nitroglycerin explosives with those containing say from 35% to 40% nitroglycerin, is becoming apparent to the users in all parts of the world.

In countries other than the United States a great deal more can be done towards making these economic changes than in the United States, because in the latter country consumers have for years been using the 40% grade as a standard for all ordinary work and in the United States it is well recognized that only exceptionally hard rock really requires stronger explosives, and that even for hard rock, 60% can generally be depended upon to do the work. In foreign countries, on the other hand, it has been customary to use the very high grades of explosives above mentioned. This is the result of custom; not of necessity or economy. There is little doubt but that the temporary hardships imposed by the high cost of explosives will result eventually in the adoption of lower grades, and that after the war, when the glycerine prices become normal, these lower grades of explosives will continue to be used and the resulting economy will in a year or two more than offset the temporary higher costs due to the glycerine situation. In other words, increased efficiency and a reduction in mining costs will probably have been brought about very much sooner through force of necessity than could have occurred under normal conditions.

ENGINEERING, FINANCIAL AND INDUSTRIAL NEWS

RAILWAYS

300 Cars for Peking Mukden Line.—The freight traffic of the Peking-Mukden Line has steadily increased, and the demand for rolling has been so great, due largely to the heavy traffic in coal between Tangshan and Tongho, that recommendations have been made for the addition of two hundred 30-ton coal cars, one hundred 30-ton covered-goods cars, and 12 locomotives. The first "all steel" 30-ton cars were used during 1914, and are now the standard of that type of car on this line. The tonnage capacity of freight cars of all classes was 62,554 in June, 1914, as compared with 59,711 in June, 1913; and there was an addition of eight locomotives during the year. The ratio of working expenses to earnings was 36 per cent for the year ended June 30, 1914, as compared with 27 per cent for the previous year; and the earnings for 1913-14 were \$460,184 gold less than for 1912-13.

Taokou-Chinghua Earnings.—There was an increase of about 12 per cent in the amount of freight carried by the Taokou-Chinghua Line in 1914 over the previous year. The total receipts in 1914 were \$247,381 gold, as compared with \$228,388 gold for 1913. Coal forms by far the largest part of the freight carried by this road. Other commodities transported are timber, salt, kerosene oil, bamboo, ginger, tobacco, machinery, medicine, and grain.

Electric Tramway for Harbin.—It is reported that the directors of the Chinese Eastern Railway have awarded a concession to the Russian firm of Barski & Co., at Harbin, to construct an electric tramway between the Pristan and Old Harbin, via New Harbin, and with a branch line to Fuchiatien, the Chinese city. The total length of the line will be about 7 miles. A local newspaper stated that the construction of the tramway was to begin immediately.

S. M. Ry. and Russian Coaches.—With regard to the order for railway carriages by the Russian Government, which has been a subject of communication between Japan and Russia for sometime, the South Manchuria Railway Company has now accepted a contract for the supply of 1,509 carriages. It is proposed to enlarge the Company's factory at Dairen so that it may be enabled to turn out 300 carriages a month. The total cost of the order is estimated at ¥30,000,000. Most of the materials will have to be imported.

Szepingchieh Line Agreement.—The loan agreement between the Yokohama Specie Bank and the Chinese Government of \$3,400,000, for the construction of the railway between Szepingchieh to Chiengchiatung, the length of which is 52 miles, is said to be based upon the Tientsin-Pukow line agreement according to Peking Press reports. The negotiations for the construction of the five railways in Manchuria and Mongolia, the privileges for which were given to the Japanese some time ago, have been carried on for some time and it is believed that a satisfactory arrangement is being arrived at between the two Governments.

According to Japanese reports, it was understood at the time of signing the Ssuningkai-Chengchiatun Railway agreement that the

construction work shall be begun in June and completed in three years. Owing to the lateness of spring in the region along the proposed railway, it is usually well into July before the thawing process is completed. For this reason, the actual commencement of construction work is expected to be somewhat deferred. The process of the work should be rapid as the major portion of the proposed line traverses a level country.

The distance is about 52 miles. This route has been surveyed twice but a construction survey will have to be made taking about a month. The construction expense is expected to be less than ¥60,000 per mile, on which basis the total outlay is about ¥3,200,000. The heaviest outlay will be for the four bridges. The one over the Liao River will be about 2,000 feet long, and will cost between ¥400,000 and ¥500,000, which estimates are likely to be exceeded owing to the recent sharp rise in price of iron and steel.

Taonan-Urga Line.—The Living Buddha of Outer Mongolia is now a strong advocate for the construction of the long proposed line connecting Taonan in Fengtien and Urga in Outer Mongolia which has been delayed by lack of funds. The Living Buddha has suggested that if the Chinese Government determines to build the line, the Urga Government will be quite willing to supply half of the funds. The total cost of the line is said to have been estimated at \$60,000,000.

Railway Construction in Chekiang.—The Railway makes but slow progress towards Shaohsing, says a correspondent of the N.-C. Daily News. Only a hundred men are at work on the line between Tsaongo and Shaohsing city and these have been concentrating on a cutting at Bahtayang, a place lying some twelve miles distant from here. No work has been done on the section between Shaohsing and the Chientang river; even the necessary land has not yet been acquired. The local papers reported that the line was going ahead this year with a Chinese engineer over the section Shaohsing—Tsaongo, an English engineer to be over the Shaohsing—Hangchow section. According to reports the city station site has been chosen outside the West Gate despite its inconvenience.

Shantung Railway.—In the course of a little over a year since the Shantung Railway passed into Japanese management, the traffic earnings of the Line, if coal freights are considered, have been raised somewhat above the figures under the German regime. For the last twelve months of the German regime the Line is said to have yielded ¥13,000 per day, which represents the actual receipts of the Railway at present. There is no denying the increase of both imports and exports in Shantung and the annual receipts of the Railway may be put at about ¥3,500,000. If the coal receipts are added, the total will reach about ¥5,000,000.

The estimates of the Railway for the next fiscal year, both capital expenditure and working expenses combined, amount to about ¥2,600,000, part of which sum will be employed for the improvement of the Line, construction of new locomotives, etc. Furthermore, the operation of Chinlingchen Iron Mine has been decided upon, and for this purpose about ¥300,000 is separately asked for. This mine

possesses 200,000,000 tons of ore. Working this when domestic demands for iron reach 1,000,000 tons, as against only about 300,000 tons put out, will make a great difference to Japan.

Chefoo-Weihsien Railway.—The Peking Daily News states that the Government has granted the request submitted by the Chamber of Commerce in Chefoo for the joint construction of the line connecting Chefoo and Weihsien by the Government and merchants. This line will be semi-official in nature, and its estimated cost is \$10,000,000. It has been decided that \$6,000,000 of the sum will be borne by Chefoo and another \$1,000,000 by the six hsiens along the proposed line, \$2,000,000 by the province of Shantung, and the remainder will be financed by other provinces and the Central Government.

Road for Kueichow.—Kueiyang citizens were much elated over the news that sanction had been given for a provincial loan for Kueichow of \$1,000,000 to be used in the construction of a big road for vehicular traffic from Kueiyang by way of Anshunfu to Paichengho, and for clearing the river from that place down through Kuangsi, so that it will be navigable for motor-boats. In the absence of railway communication in Kueichow the plan seems to be an excellent one.

New Chinese Lines.—It is reported that the Ministry of Communications has decided to construct several lines of railways during 1916. They will include lines from Kalgan to Shuiyuan 317 li; one from Lanchow in Kansu to Ili and from Sian in Shensi to Lanchow in Kansu, 500 li. With the exception of the line from Lanchow to Ili, these lines have been surveyed.

Double Track for Japan Line.—The Imperial Railway Bureau has completed the purchase of land along the railway track between Ofuna and Yokohama for the construction of a double track line. The work has been begun and is expected to be finished by the end of this year. After the completion of the work, the railway service between Tokyo and the naval port will be greatly improved.

Favor Broad Gauge for Japan.—The special committee in the Railway Board has completed an investigation into the question of whether on the railways the present narrow gauge shall be continued in use or broad gauge tracks shall be adopted. The investigations were started, it is reported, during the presidency of the late Dr. Sengoku, and have just been completed. It is reported that members of the committee have discovered the continuation of the present narrow gauge system is not advantageous, and that the other system should be adopted. Since such a change requires a great deal of money, it is a question whether the government will agree to any immediate change.

P. I. Government to Buy Manila Railroad.—The negotiations between the Insular Government and the Manila Railroad Company for the purchase of the latter have resulted in the departure of Mr. Fisher Nesmith, the

special representative of the holding interests of the Manila Railroad Company in the United States, for New York with a draft of a proposed agreement between the Government of the Philippine Islands and the road owners, signed by President H. S. Higgins of the Manila Railroad and the Governor-General, for the purchase of the lines by the Philippine Government. The papers carried by Mr. Nesmith are said not to bind either party but it is known that the personal views of the Governor-General on the subject are also the views of Mr. Osmena, Speaker of the Assembly, and of the Board of Public Utilities Commissioners. Although nothing definite has been stated concerning the sum the Government is willing to pay for the road, it has been learned that the price will not be far from 50,000,000 pesos.

Australian Tramway.—The local Council at Footscray (Victoria) is considering the question of a local electric tramway service, covering a distance of about six miles. The name of the consulting engineer may be obtained by United States manufacturers and contractors interested from the Department of Commerce and by British Manufacturers from the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall Street, London E.C.

There is a difference of opinion whether, if the holding interest in the States agree to sell at the proposed figure, it will be necessary for the Insular Government to secure Legislative ratification or whether it has authority to act independently. It is stated that the administration can purchase the railroad without going to the Legislature as funds are available in the gold standard fund and various sinking funds, which the chief executive is empowered to invest. Therefore he could take up the controlling interest in the railroad stock without going to the people but it is thought that the ratification of the Legislature will be asked.

Certain important matters with regard to existing stock and bond issues of the original and holding companies must be adjusted by the owners to meet the requirements of the Government. Other readjustments are necessary in connexion with the present liability of the Government for the payment of interest on construction bonds. But if the owners are willing to meet the Government requirements in this regard and at the same time to accept the offer tentatively made, there is every indication that the deal will be closed. A definite answer from New York is expected by about the end of February.

RIVERS AND HARBORS

West River Conservancy.—Mr. Tan Hsueh-heng, Director of the River Conservancy Work of Kwangtung, has submitted to the President a new map of the rivers of Kwangtung drawn up by the conservancy engineers. With this map as a basis, he has formed plans for the building of dykes at important places along Pe-kiang and Sikiang so as to prevent the recurrence of floods such as were experienced in Canton and other cities last summer. The funds for repairing and building the dykes will be contributed by the merchants of Kwangtung but the Conservancy Bureau will send engineers to make detailed plans and superintend the work.

Saigon to Improve Harbor.—Saigon, like other ports of French Indo-China, is nominally under the control of the central Department of Public Works, but by a decree of January 2, 1914, it was granted a certain degree of autonomy and a local administrative council. This Council of Administration, consisting of 12 members and assisted by the

chief engineer of the Cochinchina division of the Department of Public Works, has a separate budget and votes improvements and money subject to the veto of the governor of Cochinchina. This council met for the first time August 7, 1914. The first task of the new council was to consider an extensive system of improvements for the harbor of Saigon, whose facilities are inadequate for the accommodation of its commerce. At a recent meeting the following programme was agreed upon, to be put into operation as soon as possible:

1. The construction, in common with the navy yard, of a drydock 300 meters (984 ft.) long, at a cost of about \$1,600,000.
2. The installation of an electric towpath along the Canal of Derivation, from Saigon to Cholon (4 or 5 miles), at a cost of about \$200,000.
3. The acquisition of a floating crane, at a cost of about \$30,000.
4. The construction of docks for the mooring of small boats, at a cost of about \$20,000.
5. The construction of warehouses and an inclosing wall for the customs along the quay of Khan-hoi. The estimated cost of this work is fixed at \$30,000.

S.M.R. Co. Harbour Works Office.—Construction of Concrete Blocks. The manufacture of concrete blocks for the construction of the quay wall of the Third Wharf and the Northwest Breakwater will be resumed in April. Last year's output was 1,200,000 cubic feet consisting of about 1750 blocks weighing between 20 and 50 tons each. The monthly average number is 250 and odd.

Reconstruction of Singapore's Wharves.—The contractors, Messrs. Topham, Jones and Railton, Limited, of London, have made satisfactory progress during 1915 with this work notwithstanding some delay, necessitated by the design of the quay wall being altered owing to the nature of the ground and the quality of the material for filling behind it. As 1,900 feet of the main wharf is now out of use, it has been handed over to the contractors. Considerable delay is being incurred in obtaining the steel construction for the godowns to be erected on the reconstructed wharf.

In comparison with the the previous half year, the gross earnings of the wharf department show an increase of \$97,258, the net earnings an increase of \$45,336, and the tonnage an increase of 103,972 tons. The expenditure on repairs and renewals was \$141,497.92, an increase of \$60,310.60 on the preceding half year. Of the total interest paid or due to Government, viz., \$956,958.73 for the half year under review, \$595,679.08 was in respect of interest account, the capital cost of the undertaking, debentures and loans at call, redeemed, the balance of \$361,279.65 being in respect of new works; the total of \$956,958.73 being an increase of \$19,950.66 over that of the previous half-year (\$937,003.07).

New Pier for Zamboanga.—Construction work on the new concrete pier at the port of Zamboanga has been begun under the supervision of H. F. Cameron, the department engineer for Mindanao and Sulu. The project involves an expenditure of about P55,000, and will be of great benefit to the commercial development of the southern port.

We have been informed by the District Engineer that the plans for the dock extension are expected to arrive from the bureau of public works by the first mail from Manila, and that work will immediately be resumed and carried forward to completion without delay. The present dilapidated and dangerous pier is to be replaced by a concrete structure and carried out to thirty feet of water. The pier head is to be 250 feet long which is ample for all vessels plying in these waters.

MINING

Mining Progress in New Guinea.

Previous to the outbreak of war the mining position in British New Guinea had reached an interesting point, where high values reported as a result of the small amount of lode mining seemed likely to insure its being tested on a scale proportionate to the values and wide occurrence of gold reported. The period antecedent to the war was, however, very unfavourable for raising capital, and since that date interest has turned towards evicting the Germans from the neighbouring half of New Guinea and preparing a hasty rummage of the new territory. Official statistics recently available show that the recorded output for the twelve months to the middle of 1914 declined somewhat, amounting to 14,666 crude ozs., compared with 18,247 crude ozs. in the corresponding earlier twelve months.

The Kulumadai mine continues the only producer of importance, and returned for the year 3,696 crude ozs. from 13,175 tons crushed. The property is described by the Warden of the field as a very valuable one, but needing larger capital than it possesses. The figures for some of the small shows are spectacular, but, of course, the scale of working prevents any certainty as to their real value. The Woodlark King returned just on 1,600 crude ozs. from 372 tons of ore crushed. The Federation mine at Busai showed a value of over £1,100 from a little over 200 tons of ore, and gives promise of being most valuable.

Another property in the same field, the Murua United, has opened up a lode which is said to assay about 6 ozs. to the ton. The efforts of the owners of these and adjoining properties have been mainly directed to seeking capital, and in most cases they are restricted to working with one or two white men and perhaps twenty natives. The bulk of the gold won is still alluvial, and an increasing interest in dredging is to be observed.

On the Yodda a dredging plant has been sent out, but as it has to be transported over 70 miles of track, progress is necessarily slow. Dredging areas are also understood to exist on Mambare, Gira, and Lakekamu rivers. Twenty-one dredging claims have been taken out, and others applied for. Despite the failure of the Great Fitzroy or Mount Morgan to realise their option on the Laloki mine, development has continued, and a considerable amount of "payable ore" has been blocked out—payable, we must presume, under improved conditions of transport, as at present the exports are confined to between 20 and 40 per cent. copper ore, while the average grade of the Laloki has been reported at 3 per cent. All transport at present is by mule or, in the dry seasons, by waggon.

Quite a number of claims have been applied for, the most promising after the Laloki being the Dubuna and Astrolabe. The amount of copper ore shipped last year was 1,150 tons, valued at £19,733. In the Murua field, on Woodlark Island, the presence of copper country over a large area is undoubted; in the event of mines being developed the nearness of deep water would insure cheap working. On the Astrolabe field little can be done without railway construction, but with that a production of 60,000 tons of ore annually is estimated for.

The country, however, is one which cannot possibly develop itself. So far production has been almost entirely alluvial by individual prospectors, and capital on a considerable scale is now required to test the lode formations. The total white population at the end of June last year was only 1,186, of whom 159 were miners, while the natives so employed numbered no more than 1,015.

Mining Output of Malaysia.—The present year, from a Federated Malay States mining standpoint, opened with the price of tin standing at \$69.50; there was a

gradual rise, with fluctuations to \$86.00 on the 19th of March, during which month the average price was about \$81.58; in May it dropped to \$79.75; in June it was \$81.71; and since then the market has shown a downward tendency. The average price for the whole period was \$79.23 per pikul as against \$80.86 for the first half of last year. The drop in price as compared with 1913, the last normal year, has been accompanied by an increase in the cost of placing tin on the London market and the working of a few properties has been effected; but the circumstances of the industry as a whole, under war conditions, may be said to be satisfactory.

The output for the first half of the year, reduced to a metallic basis, was 391,738 piculs, being 26,607 piculs less than for the similar term in 1914, but approximately the same as that for the first half of 1912. The decrease in the value of tin exported amounted to \$3,278,208.

Tungsten Exports of Malaysia.—War requirements have led to an abnormal increase in the demand for tungsten ores for use in the manufacture of high speed steel and various forms of hardened steel, and the price in the United Kingdom has risen to fifty-five shillings per unit of tungstic acid, at which price it is being requisitioned by His Majesty's Government. The export of tungsten to places other than the United Kingdom and the Straits Settlements is prohibited. With a view to encouraging an increase in the Federated Malay States' production, the export duty on wolfram has been temporarily suspended and other attempts are being made to ascertain if other measures can be taken to effect any considerable increase in production.

The railway connection to the Malayan Collieries, Limited, is practically completed, the opening up and equipment of the mine is in an advanced stage, and before the end of the year a steady output of coal may be expected. Further trials of the coal from this Colliery have demonstrated its suitability for a variety of uses, and it is understood that experiments in briquetting are being undertaken.

The Raub Mine continues to be a steady producer of gold, and maintained its normal output.

Metal Markets of 1915-1916.—The following annual report on the metal market of the United Kingdom for 1915 and the outlook for 1916 has been furnished by Messrs. William Jacks and Co. of London and Birmingham.

The fluctuations in prices during the past twelve months will in themselves make the year 1915 a memorable one in the Metal Trade. Looking back we can see the effects of the formation of a standing Army of some four million men, a Navy with one million, and the remaining available labour of the country mainly engaged in producing Munitions of War, combined with the great and growing scarcity of shipping, brought about by the duplicating at various points on the map of our initial Expeditionary Force, and the consequent enormous rise in freights. In ordinary times trade demands contract as prices rise, and practically vanish as the advance is carried beyond a certain level, but all past experience counts for nothing under present conditions. The War profits which have accrued to our American friends have led to a sharp revival in the Home demand there which has gone far to accelerate the upward tendency that has prevailed throughout the entire year.

Iron.—Cleveland prices sagged early in the year on the general slackness prevailing in the Foundry Trade and stocks increased, but the rising freights made importations of American Iron impossible, and with the rise of 50s. per ton in Hematite and similar advances in Coal and Coke it was impossible for Cleveland Iron not to follow.

Copper has had wide fluctuations, due no doubt partly to American manipulation of the Warrant market, to assist them in marketing their increasing output of Electrolytic at two to three times its cost of production. With the Russian demand absorbing the bulk of the Japanese output as well as a considerable portion of the Australian output, their task has been an easy and profitable one.

Tin has only been affected indirectly by the War, and the fluctuations have been chiefly caused by the giving and withholding of Export Licenses by the Government. The fact that no Homeward Bound Tin has been sent to the bottom during the year must be a source of great satisfaction to Consumers and Underwriters—if not to Speculators.

Lead has moved both ways like Copper, depending largely upon the Russian demand earlier in the year, and later on the rapid rise in Atlantic freights, which, of course, is reflected in Lead to a much greater degree than in Copper or Spelter.

Spelter rose £87 in the first six months of the year, principally on the fact that all Sheets used in the Camps throughout the country were supplied galvanised. By the time a suitable substitute for Spelter was discovered by the Government in Bituminous Paint the price of Spelter fell £60, but later on firmed again on the increasing demand for Munitions.

1916. For the New Year it is impossible to predict, as everything depends upon the duration of the War. As we write, freights have advanced further, and as the new recruits are called up costs of all raw material produced in this country are bound to increase.

Iron is more affected than other Metals by this question of labour, but with a falling off in general demand and increasing difficulties in the way of rail and shipping facilities, consumption seems to us to have reached its maximum.

Copper.—The Transatlantic freight contracts at 17s. 6d. per ton are a thing of the past, and freights are now three to four times that figure. The block at New York and the scarcity of shipping facilities are likely to prevent any serious set-back in prices of Electrolytic Copper, and stocks of Standard Copper are small and easily manipulated.

Tin.—There seems no reason to look for important fluctuations in this metal, as supply and demand seem evenly balanced, and the Government have taken steps to insist that stocks in this country are kept at a reasonable level. This metal is also less affected by Peace prospects than any of the others.

Lead.—It seems to be doubtful whether the position in Mexico has really improved or not, but any prospect of more settled conditions there would appear to us to make Lead at £30 seem on a high basis.

Spelter.—It is to be hoped that producers in this country will be able gradually to increase their production in conjunction with our Australian friends and so make us independent of outside supplies, but this will take time, and under present conditions it does not seem probable that America will allow the position to ease.

Government to Supervise Mining.—Hitherto the antimony mines of Kuangsi have operated by private individuals under special permission of the Government. It is now decided, says the "Peking Gazette," that the mines are to be operated under the supervision of the Government and a sum of \$200,000 has been set aside in connexion with this purpose.

New Coal Fields in Manchuria.—New coal fields are reported to have been discovered near Station Manchuli by the local chief of police. The fields are located about 5 miles from the Station Manchuli and 2 miles from the railway line. The discoverer has offered to sell his right in the deposits to the Chinese

Eastern Railway which is investigating the amount and quality of the coal.

Japan's Lead Imports.—The demand for lead in Japan is about 20,000 tons a year, and the supply from home mines is only about 3,000 tons, or 15 per cent. of the amount demanded. Since the outbreak of war, the only source from which Japan has been able to obtain a supply was Australia, but it is reported that a strike in the mines there is expected to curtail the output by half. The demand for lead this year is greater because of the manufacturing of munitions of war for Russia. The supply of ores contracted for or in the course of arrangement for the year are as follows:

	tons	from
For Kamioka mine	5,000	Australia
"	1,500	China
"	3,000	Asiatic Russia
For Osaka Zinc Refinery	7,000	Australia
Refinery in negotiation..	10,000	"
Available for other refineries	5,000	"
Total.....	29,500	

The ore, when refined, is reduced by about half and the above ores will produce nearly 15,000 tons of lead. The home output of 3,000 tons, added to this, would make 18,000 tons in all, available for consumption for the present year. The average demand being 20,000 tons a year, and 4,000 tons being in demand for munition manufacturing, the total demand this year will amount to 24,000 tons. Supposing it is possible to curtail the consumption for regular purposes still there will be a shortage of supply of lead of about 5,000 or 6,000 tons. This has caused the market to harden, the present quotation being 25 yen for immediate delivery, and 23 yen for time bargains.

Japanese Steel Works to Expand.—At a recent general meeting of the shareholders of the Sumitomo Steel Works of Osaka it was unanimously decided to change the company into a joint stock company, with capital of 6,000,000 yen. The Sumitomo Steel works now has representatives traveling in the United States and England to buy up-to-date machinery to be installed in its works. As soon as the new equipment is installed, production on a larger scale will be started and an additional increase of capital, which the company proposes to open to the general public, will be announced. Baron Sumitomo is president of the company.

Chinese Work Russian Mines.—In view of the special conditions created by the war, the Goldmining Committee of the Ministry of Trade and Industry has declared in favour of provisionally suspending the regulation forbidding the employment of Chinese labour in the mines of East Siberia and the adoption of measures to facilitate the transport of Chinese workmen to the gold diggings.

S. M. Ry. Plans Steel Works.—It is again reported that the South Manchuria Railway Company plans to start a steel plant, using material from the mines along the zone of the railway. Mr. Kabayama, a director of the company, who is coming to Tokyo from Dairen is reported to be commissioned to get consent of the authorities there.

Indian Output of Coal.—India is now producing more coal than all British Dependencies, but Japan has got well ahead of her with an output of 21 million tons and is actively competing in the markets of Ceylon, the Straits Settlements, Sumatra and Java. India must naturally remain a practically non exporting country until the countries around become better developed industrially; under present conditions she consumes within her own borders 93.9 per cent of her production.

The railways of the country alone took about 4 $\frac{3}{4}$ million tons of Indian coal, supplemented by nearly 300,000 tons of foreign coal; and their total consumption at the beginning of the quinquennium was only 3 $\frac{3}{4}$ million tons, we have here an index of expansion in railway traffic in this short period. In 1913, the total quantity of foreign coal received in India amounted to 645,000 tons, the sources of supply being, in order of volume, the United Kingdom, Natal, Japan, Australia; some other countries also contributed to a total extent of 175,000 tons. Total exports for 1913 amounted to about 760,000 tons, out of which 426,000 tons went to Ceylon and 198,000 tons to the Straits Settlements.

Market for Graphite.—In view of recent discoveries of graphite in China, the following from India may prove of interest. Before the war a large quantity of the plumbago exported went to the continental ports, Germany being the biggest buyer. With the outbreak, the trade was more or less at a standstill as the export of the article was prohibited except to England and the allied countries; but England not being a large buyer, the prices fetched were very low. Later the Government sanctioned the export of the article to America and prices improved a great deal. Since of late not America only has been a big buyer, but also England and Russia, the latter country up to October 31 having taking 39,961 cwt. against 79 cwt. in 1914. The greater demand is from the American market which has imported up to that date 186,599 cwt. against 136,562 last year, while the United Kingdom has imported 86,952 cwt. against 84,000 in 1914. The price fetched is about R1,000 per ton and denotes a much sounder state of affairs than even during the extraordinary boom in 1890 when the price went up to R1,100 per ton. There is an excellent demand for all grades and both the large and small producers are being benefited. Most of the small pits that had been closed have been reopened and certain restrictions that were imposed by government in consequence of the recent riots are being relaxed. All the plumbago to Russia goes via Vladivostock.

SHIPPING

New Line for Manila Run.—According to reports from Manila, the Philippines and San Francisco are to be brought within twenty-two days of each other by a line of direct freight and passenger vessels. This is the outgrowth of the purchase of the remaining seven steamers of the Pacific Mail Company by the American International Corporation of New York. The new line will start with five steamers, leaving San Francisco every three weeks and making the trip to Manila in twenty-two days.

New Nippon Yusen Kaisha Steamer.—The N.Y.K. S.S. Tokiwa Maru, which was successfully launched on the 9th instant at the Mitsubishi Shipbuilding Yard, Nagasaki, where she had been built, is intended for a cargo-boat for the Company's European service. Her keel was laid on May 5, 1915, and she is expected to be completely equipped about the middle of next May. Her general descriptions follow: Length (over all) 445 feet: Breadth (moulded) 58 feet: Depth 34 feet: Gross tonnage 7,252; Speed 14 knots: I. H. P. 5,800; Carrying capacity 12,000. She has four cylindrical single-ended boilers, a through double bottom, seven watertight bulkheads, two through decks, five holds, and fourteen winches and derricks, and is 100 A.I., as required by Lloyds. A unique feature of her engine is her Parson Turbine of the Impulse Reaction System.

Japan Building Submarines.—According to Japanese press report the Kawasaki Dock-

yards have obtained all the rights and privileges to build all future engines and machinery for torpedo boats and submarines of the F. I. A. T. type, if they so desire in Japan. All the plans and details are to be furnished them.

A further contract has been signed which gives the Company the exclusive rights to manufacture in Japan the Fiat type of Diesel oil engines. These engines are applicable not only to submarines, but are now proving successful and economical factors as marine engines even in larger vessels. For the construction of the hull of the first submarine and for instructions as to operating, several Italian engineers will go to Japan. The Kawasaki Dockyards Company will send a number of technical experts to study in the Fiat works in Turin and in Spezia. The Dockyards has entered into a contract with the Fiat San Giorgio Company of Turin for the construction of one latest model submarine of the Laurente type. This boat displaces 700 tons when on the surface and 1,070 tons when submerged. In speed it is as fast as any modern battleship and can travel over 6,000 miles without replenishing its supply of oil. The length is 75 metres. It carries five torpedo tubes, three in the bow and two in the stern, besides anti-aircraft submersible guns and other up-to-date appliances. The hull of this submarine will be built in Japan. The machinery and engines, &c. are to be built and sent from Italy. The vessel will be completed within 24 months.

New Japanese Dockyard.—Plans are being made to establish a dockyard off Tsurumi, Tachibana-gun, Kanagawa prefecture, by Mr. Asano, president of the Toyo Kisen Kaisha, Mr. Yasuda, president of the Yasuda Bank, and a number of other business men of Tokio, with a capital of 5,000,000 yen. Mr. Asano and others obtained permission from the Government to reclaim ground for the purpose some time ago. When the dockyard is ready Mr. Asano expects to build five passenger liners, each similar to the liner Hongkong Maru which the Toyo Kisen Kaisha sold to the Osaka Shosen Kaisha some time ago. After the completion of these steamers another passenger boat with a displacement of 25,000 tons will be constructed. All these steamers will be placed on the Toyo Kisen Kaisha San Francisco-Hongkong Line. All materials, which are to be used in the new dockyard for the construction of these steamers, will be procured in Japan as far as possible.

China Mail Names Agents.—Mr. G. J. Petrocilli has been appointed agent in Shanghai of the newly formed China Mail S.S. Co. and assumed his new duties on January 1. He has no advice as yet as to the company's plans except that it will make Shanghai a regular port of call.

P. I. Cable Ship Sold.—Application has been made by the Tabacalera Steamship company to the public utilities commission for authority to issue capital stock of a par value of P375,000 to the Compania General de Tabacos de Filipinas in part payment for the cableship Rizal. The consideration for the transfer by the government to this corporation of the Rizal, consisting of the sum of P210,000 in cash and the transfer of the steamer Bustamante, has been paid by the Compania General de Tabacos de Filipinas.

Dollar Buys New Steamer.—Robert Dollar, head of the Dollar Steamship Co., has announced that his company has purchased the British steamer *Strathardle* from Burrell and Sons, Glasgow, and will bring the vessel out here to operate between Vancouver and the Orient. The *Strathardle* is of 2,829 tons net, built at Dumbarton in 1910.

C. P. R. Resumes Steamer Service.—The Canadian Pacific Steamship line has announced that the Empress of Russia would leave Hongkong for Vancouver, via Japan ports, on February 24, followed by the Empress of Asia on March 23, and that a steamer of the company would leave Hongkong every four weeks thereafter. This puts the complete oriental service of the company back in operation. The matter of calling at Manila has not yet been definitely settled.

TRAMWAYS

The Japanese tramways date back from 1880, when in February an application was tendered for the construction of the Tokyo Horse Tram Co.'s line. The application was sanctioned, and the line was completed and opened for traffic in June, 1883. This was soon followed by others in rapid succession, and especially since 1888 every year witnessed application for four or five horse tramway undertakings. The result was the promulgation of the Tramway Regulations by Law No. 71 on August 23rd, 1891, by virtue of which horse tramways and similar means of transportation to be laid on public roads for general traffic came to be authorized subject to the special sanction of the Minister of Home Affairs. On October 22, 1908, it was further provided by Imperial Ordinance No. 266 that applicants for the construction of tramways on the Tramway Orders should also obtain the sanction of the Minister of Communications, whereupon the control of the tramways as to their construction and working came under the charge of the Imperial Government Railways. The following are the results of working during the year:—

Item	Electric tramways	Steam engine tramways	Petroleum motor tramway	Horse tramways	Rikisha tramways	Total
No. of tramways	55	23	1	35	12	126
Mileage... { Open	565.28	203.34	29.51	269.72	70.64	1,138.49
{ Under construction	262.11	66.95	9.84	19.46	1.41	359.77
Capital (yen)	249,297,380	5,170,000	1,000,000	2,163,060	601,500	258,231,940
Cost of Construction (yen)	242,007,716	5,042,808	1,121,536	2,288,212	650,522	251,110,794
Rolling Stock ... { Locomotives	3	116	55	1	—	175
{ Carriages	3,506	196	30	535	96	4,363
{ Wagons	184	251	105	587	430	1,557
Staff	20,610	1,003	247	1,374	625	23,859
Passengers { No.	558,431,796	6,384,694	1,907,730	9,212,380	293,174	576,229,774
{ carried	22,454,673	698,820	142,797	631,844	29,080	23,957,214
Goods hauled { Tonnage	420,017	205,694	47,269	229,829	285,460	1,188,269
{ Earnings (yen)	239,759	119,617	37,996	190,885	157,144	745,401
Revenue (yen)	31,061,976	1,085,414	195,197	887,340	350,511	33,580,438
Expenses (yen)	21,635,020	808,684	127,029	788,608	298,604	23,657,945
Profit (yen)	9,426,956	276,730	68,168	98,732	51,907	9,922,493

TRAMWAYS NOT YET OPENED FOR BUSINESS

No. of tramways...	26	9	—	16	8	59
Mileage of Lines sanctioned	247.47	50.51	—	110.21	26.69	434.88